```
=> fil reg
FILE 'REGISTRY' ENTERED AT 18:55:04 ON 01 JUN 2007
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Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES:   31 MAY 2007  HIGHEST RN 936320-32-0
DICTIONARY FILE UPDATES:  31 MAY 2007  HIGHEST RN 936320-32-0

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH December 2, 2006

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and
predicted properties as well as tags indicating availability of
experimental property data in the original document.  For information
on property searching in REGISTRY, refer to:

http://www.cas.org/support/stngen/stndoc/properties.html

=> d que stat l8
L3              STR
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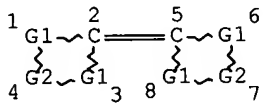


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VAR G1=S/O/SE/TE
REP G2=(1-5) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS   8

STEREO ATTRIBUTES: NONE
L4              SCR 1839
L6              SCR 2040 OR 1929
L8         7111 SEA FILE=REGISTRY SSS FUL L3 AND L4 NOT L6

100.0% PROCESSED  840597 ITERATIONS                    7111 ANSWERS
SEARCH TIME: 00.00.03


=> d que stat l10
L10             STR
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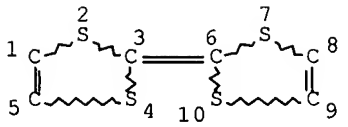
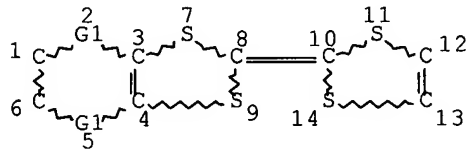


NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 10

STEREO ATTRIBUTES: NONE

=> d que stat l13
L13 STR

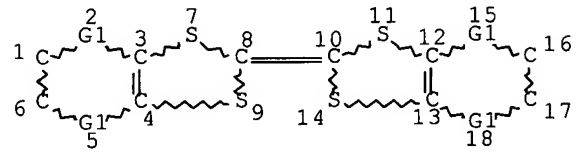


VAR G1=S/O/SE/TE
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 14

STEREO ATTRIBUTES: NONE

=> d que stat l16
L16 STR

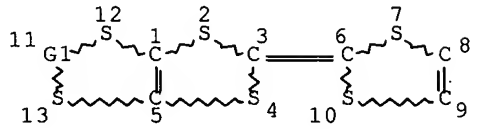


VAR G1=S/O/SE/TE/CH2
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 18

STEREO ATTRIBUTES: NONE

=> d que stat l19
L19 STR



REP G1=(1-5) CH2
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 13

STEREO ATTRIBUTES: NONE

=> d his nofile

(FILE 'HOME' ENTERED AT 16:50:56 ON 01 JUN 2007)

FILE 'HCAPLUS' ENTERED AT 16:51:04 ON 01 JUN 2007
L1 1 SEA ABB=ON PLU=ON US2004045818/PN
D SCA
D IALL
SEL RN

FILE 'REGISTRY' ENTERED AT 16:51:29 ON 01 JUN 2007
L2 21 SEA ABB=ON PLU=ON (118148-32-6/BI OR 128346-62-3/BI OR
157289-25-3/BI OR 157289-26-4/BI OR 174421-80-8/BI OR
214604-40-7/BI OR 25067-58-7/BI OR 31366-25-3/BI OR
35079-58-4/BI OR 39302-37-9/BI OR 50708-37-7/BI OR
57512-85-3/BI OR 62921-51-1/BI OR 668421-55-4/BI OR
668421-56-5/BI OR 668421-57-6/BI OR 668421-58-7/BI OR
668421-59-8/BI OR 66946-48-3/BI OR 7439-93-2/BI OR
99159-48-5/BI)
D SCA

FILE 'LREGISTRY' ENTERED AT 17:09:38 ON 01 JUN 2007
L3 STR
L4 SCR 1839

FILE 'REGISTRY' ENTERED AT 17:16:11 ON 01 JUN 2007
L5 26 SEA SSS SAM L3 AND L4
L6 SCR 2040 OR 1929
L7 20 SEA SSS SAM L3 AND L4 NOT L6
L8 7111 SEA SSS FUL L3 AND L4 NOT L6
SAV L8 WEI271/A
L9 16 SEA ABB=ON PLU=ON L2 AND L8

FILE 'LREGISTRY' ENTERED AT 17:35:54 ON 01 JUN 2007
L10 STR

FILE 'REGISTRY' ENTERED AT 17:41:26 ON 01 JUN 2007

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L11          50 SEA SUB=L8 SSS SAM L10
L12        5335 SEA SUB=L8 SSS FUL L10

     FILE 'LREGISTRY' ENTERED AT 17:46:23 ON 01 JUN 2007
L13             STR

     FILE 'REGISTRY' ENTERED AT 17:52:36 ON 01 JUN 2007
L14          50 SEA SUB=L8 SSS SAM L13
L15        1294 SEA SUB=L8 SSS FUL L13
                SAV L15 WEI271S2/A

     FILE 'LREGISTRY' ENTERED AT 17:56:24 ON 01 JUN 2007
L16             STR L13

     FILE 'REGISTRY' ENTERED AT 17:58:36 ON 01 JUN 2007
L17          26 SEA SUB=L8 SSS SAM L16
L18         524 SEA SUB=L8 SSS FUL L16
                SAV L18 WEI271S3/A

     FILE 'LREGISTRY' ENTERED AT 18:01:46 ON 01 JUN 2007
L19             STR

     FILE 'REGISTRY' ENTERED AT 18:04:11 ON 01 JUN 2007
L20          49 SEA SUB=L8 SSS SAM L19
L21         953 SEA SUB=L8 SSS FUL L19
                SAV L21 WEI271S4/A
L22           1 SEA ABB=ON  PLU=ON  L2 AND C18H16O4S4/MF
                D SCA

     FILE 'HCAPLUS' ENTERED AT 18:10:26 ON 01 JUN 2007
L23         924 SEA ABB=ON  PLU=ON  L8(L)DEV+ALL/RL

L24             QUE ABB=ON  PLU=ON  ELECTROCHEMIC?(2A)DEVICE
L25           4 SEA ABB=ON  PLU=ON  L23 AND L24
L26        5761 SEA ABB=ON  PLU=ON  L8
L27           8 SEA ABB=ON  PLU=ON  L26 AND L24
L28             QUE ABB=ON  PLU=ON  CATHODE? OR ANODE? OR ELECTRODE?
L29         507 SEA ABB=ON  PLU=ON  L26 AND L28
L30         188 SEA ABB=ON  PLU=ON  L8(L)L28
L31             QUE ABB=ON  PLU=ON  DEVICE
L32          13 SEA ABB=ON  PLU=ON  L30 AND L31
L33          18 SEA ABB=ON  PLU=ON  L25 OR L27 OR L32
L34        5014 SEA ABB=ON  PLU=ON  L12
L35         109 SEA ABB=ON  PLU=ON  L12(L)L31
L36       15145 SEA ABB=ON  PLU=ON  POLYACETYLENE
L37         454 SEA ABB=ON  PLU=ON  POLYACETYLENE(L)L31
L38           3 SEA ABB=ON  PLU=ON  L35 AND L37
L39          22 SEA ABB=ON  PLU=ON  L34 AND L36
L40           5 SEA ABB=ON  PLU=ON  L39 AND L28 (Formula (2) - searcher's note)
L41        1578 SEA ABB=ON  PLU=ON  L15
L42          32 SEA ABB=ON  PLU=ON  L15(L)L31
L43          15 SEA ABB=ON  PLU=ON  L42 AND L28 (Formula (3) - searcher's note)
L44        1300 SEA ABB=ON  PLU=ON  L18
L45          30 SEA ABB=ON  PLU=ON  L18(L)L31
L46          15 SEA ABB=ON  PLU=ON  L45 AND L28 (Formula (4) - searcher's note)
L47        1377 SEA ABB=ON  PLU=ON  L21
L48          29 SEA ABB=ON  PLU=ON  L21(L)L31
L49          15 SEA ABB=ON  PLU=ON  L48 AND L28 (Formula (5) - searcher's note)
L50           2 SEA ABB=ON  PLU=ON  L22         (Formula (6) - searcher's note)
L51          15 SEA ABB=ON  PLU=ON  L33 AND L28 (Formula (1) - searcher's note)
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L52          31 SEA ABB=ON  PLU=ON  L51 OR L40 OR L43 OR L46 OR L49
L53          30 SEA ABB=ON  PLU=ON  L52 NOT L50
L54           4 SEA ABB=ON  PLU=ON  L53 AND L36
L55          30 SEA ABB=ON  PLU=ON  L53 OR L54


=> fil hcap
FILE 'HCAPLUS' ENTERED AT 18:55:28 ON 01 JUN 2007
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FILE COVERS 1907 - 1 Jun 2007  VOL 146 ISS 24
FILE LAST UPDATED: 31 May 2007  (20070531/ED)

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 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

=> d l50 ibib abs hitstr hitind 1-2

L50  ANSWER 1 OF 2  HCAPLUS  COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER:         2005:1049967  HCAPLUS  Full-text
DOCUMENT NUMBER:          143:349949
TITLE:                    Power system and its manage method
INVENTOR(S):              Kuranuki, Masaaki; Inatomi, Yuu
PATENT ASSIGNEE(S):       Matsushita Electric Industrial Co., Ltd., Japan
SOURCE:                   PCT Int. Appl., 32 pp.
                          CODEN: PIXXD2
DOCUMENT TYPE:            Patent
LANGUAGE:                 Japanese
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.           KIND   DATE        APPLICATION NO.        DATE
     ---------------      ----   --------    --------------------
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     WO 2005091424         A1    20050929    WO 2005-JP4442
                                                                   200503
                                                                   14
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,
             CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
             GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP,
             KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW,
             MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,
             SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US,
             UZ, VC, VN, YU, ZA, ZM, ZW
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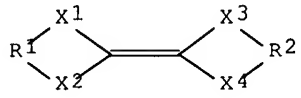
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

JP 3827709	B2	20060927	JP 2005-518819	200503 14
CN 1934745	A	20070321	CN 2005-80008706	200503 14
PRIORITY APPLN. INFO.:			JP 2004-78891 A	200403 18
			WO 2005-JP4442 W	200503 14

OTHER SOURCE(S): MARPAT 143:349949

GI



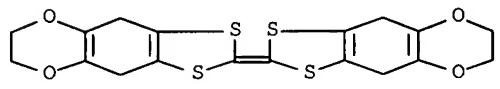
I

AB The power system has an electrochem. element, a load, a power generating means, and a charge/discharge control means for the electrochem. element; where the electrochem. element is a secondary battery having a cathode, an anode, and an electrolyte solution or a solid electrolyte and has ≥1 voltage step on its charge/discharge curve. A threshold voltage is set near the inflection point on 1 of the steps, and the control means controls the charge and discharge of the battery to bring the battery voltage to the threshold voltage. Preferably, the cathode or the anode is I, where R1 and R2 = linear or cyclic aliphatic groups which may contain O, N, S, Si, P, or B atoms, and X1-4 = S, O, to Te; and the power system is for automobiles.

IT **668421-55-4**
RL: DEV (Device component use); USES (Uses)
(electrodes for secondary batteries in power systems containing charge/discharge means for automobiles)

RN 668421-55-4 HCAPLUS

CN 1,3-Dithiolo[4,5-g][1,4]benzodioxin, 4,6,7,9-tetrahydro-2-(4,6,7,9-tetrahydro-1,3-dithiolo[4,5-g][1,4]benzodioxin-2-ylidene)- (9CI) (CA INDEX NAME)



IC ICM H01M010-44
ICS G01R031-36; H01M004-60; H02J007-34

CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)

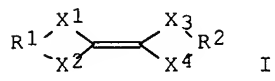
IT **668421-55-4**
RL: DEV (Device component use); USES (Uses)
(electrodes for secondary batteries in power systems containing charge/discharge means for automobiles)
REFERENCE COUNT: 14 THERE ARE 14 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L50 ANSWER 2 OF 2 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:203235 HCAPLUS Full-text
DOCUMENT NUMBER: 140:238479
TITLE: Electrochemical device
INVENTOR(S): Inatomi, Yuu; Shimada, Mikinari; Hojo, Nobuhiko
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 16 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004045818	A1	20040311	US 2003-648271	20030827
JP 2004111374	A	20040408	JP 2003-290160	20030808
EP 1416553	A1	20040506	EP 2003-19484	20030828
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
CN 1495939	A	20040512	CN 2003-160286	20030829

PRIORITY APPLN. INFO.: JP 2002-250416 A 20020829

GI



I

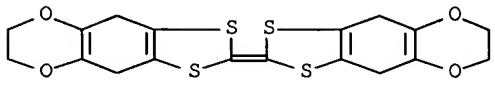
AB The invention concerns an electrochem. device for providing elec. energy by converting an electron transfer involved in an oxidation-reduction reaction into elec. energy comprising a pos. electrode, a neg. electrode and an electrolyte, wherein at least one of the pos. and neg. electrodes comprises a compound having a structure represented by the general formula (I), where R1 and R2 are independent of each other and each represents a linear or cyclic aliphatic group; X1, X2, X3, and X4 are independent of each other and each represents a S atom, an O atom, a Se

atom, or a Te atom; and the aliphatic group can comprise ≥1 selected from the group consisting of an O atom, a N atom, a S atom, a Si atom, a P atom, and a B atom.

IT **668421-55-4**
RL: DEV (Device component use); USES (Uses)
(electrochem. device)

RN 668421-55-4 HCAPLUS

CN 1,3-Dithiolo[4,5-g][1,4]benzodioxin, 4,6,7,9-tetrahydro-2-(4,6,7,9-tetrahydro-1,3-dithiolo[4,5-g][1,4]benzodioxin-2-ylidene)- (9CI) (CA INDEX NAME)



IC ICM C25B011-04
INCL 204291000
CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
Section cross-reference(s): 72

IT 7439-93-2, Lithium, uses 25067-58-7D, Polyacetylene, tetrathiafulvalene functionalized 31366-25-3, Tetrathiafulvalene 35079-58-4 39302-37-9, Lithium titanium oxide 50708-37-7, Tetramethyl tetrathiafulvalene 57512-85-3 62921-51-1D, reaction products with polyacetylene 66946-48-3 99159-48-5 118148-32-6 128346-62-3 157289-25-3 157289-26-4 174421-80-8, Cobalt lithium nitride Co0.4Li2.6N 214604-40-7 **668421-55-4** 668421-56-5 668421-57-6, Lithium titanium oxide (LiTi5O12) 668421-58-7 668421-59-8
RL: DEV (Device component use); USES (Uses)
(electrochem. device)

=> d l55 ibib abs hitstr hitind 1-30

L55 ANSWER 1 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2007:463226 HCAPLUS Full-text
DOCUMENT NUMBER: 146:431572
TITLE: Organic thin film transistor and flat panel display device having the same
INVENTOR(S): Park, Jin-Seong; Suh, Min-Chul; Ahn, Taek
PATENT ASSIGNEE(S): Samsung SDI Co., Ltd., S. Korea
SOURCE: U.S. Pat. Appl. Publ., 16pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

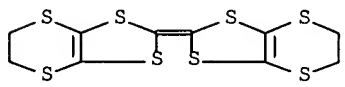
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2007090351	A1	20070426	US 2006-581424	200610 17
PRIORITY APPLN. INFO.:			KR 2005-99943 A	200510

AB An organic thin film transistor that can control the threshold voltage and reduce leakage current includes: a gate **electrode**; an organic semiconductor layer insulated from the gate **electrode** ; a source **electrode** and a drain **electrode** insulated from the gate **electrode** and elec. connected to the organic semiconductor layer; a gate insulating layer interposed between the gate **electrode** and the organic semiconductor layer; and a hole control layer that is interposed between the gate insulating layer and the organic semiconductor layer. The hole control layer includes a compound having a hole-donor group or a compound having a hole-acceptor group.

IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
RL: TEM (Technical or engineered material use); USES (Uses)
(organic thin film transistor and flat panel display **device** having the same)

RN 66946-48-3 HCAPLUS

CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



INCL 257040000; 257066000

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

IT 84-11-7, Phenanthrenequinone 84-65-1, Anthraquinone 91-19-0, Quinoxaline 92-82-0, Phenazine 92-93-3, 4-Nitrobiphenyl 97-02-9, 2,4-Dinitroaniline 100-01-6, 4-Nitroaniline, uses 117-08-8, Tetrachlorophthalic anhydride 128-69-8, 3,4,9,10-Perylenetetracarboxylic dianhydride 129-79-3, 2,4,7-Trinitrofluorenone 130-15-4, 1,4-Naphthalenedione 275-51-4, Azulene 527-21-9, Tetrafluoro-1,4-benzoquinone 605-71-0, 1,5-Dinitronaphthalene 623-26-7, 1,4-Dicyanobenzene 632-51-9, Tetraphenylethylene 712-74-3, 1,2,4,5-Tetracyanobenzene 961-68-2, 2,4-Dinitrodiphenylamine 1217-45-4, 9,10-Dicyanoanthracene 1953-99-7, Tetrachlorophthalonitrile 2085-33-8, Tris-8-hydroxyquinolinealuminum 4110-35-4, 3,5-Dinitrobenzonitrile 4584-57-0, 4-Dimethylamino-4'-nitrostilbene 15570-45-3, 1,2,3,4-Tetraphenyl-1,3-cyclopentadiene 17420-30-3, 5-Nitroanthranilonitrile 25983-14-6, 2,3,6,7-Tetrachloroquinoxaline 27318-90-7, 1,10-Phenanthroline-5,6-dione **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene 80509-44-0 126213-51-2, Poly(3,4-ethylenedioxythiophene)
RL: TEM (Technical or engineered material use); USES (Uses)
(organic thin film transistor and flat panel display **device** having the same)

L55 ANSWER 2 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2007:227234 HCAPLUS Full-text

DOCUMENT NUMBER: 146:299218

TITLE: **Electrode** for use in oxygen reduction

INVENTOR(S): Sotomura, Tadashi; Hashimoto, Mitsuru; Yamada, Yuka

PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan

SOURCE: PCT Int. Appl., 44pp.
CODEN: PIXXD2

DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

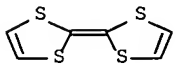
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2007023964	A1	20070301	WO 2006-JP316773	200608 25

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HN, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LA, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MY, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RS, RU, SC, SD, SE, SG, SK, SL, SM, SV, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

PRIORITY APPLN. INFO.: JP 2005-243846 A 200508 25

AB Disclosed is an **electrode** for use in oxygen reduction which can be used as an oxygen **electrode** or air **electrode** in an **electrochem. device** such as an air battery, fuel cell, or electrochem. sensor, can reduce oxygen electrochem. at a noble voltage, and is excellent in stability. The **electrode** comprises a Co tetrapyrazinoporphyrazine derivs. as a catalyst component.

IT **31366-25-3**, Tetrathiafulvalene
RL: TEM (Technical or engineered material use); **USES (Uses)**
(**electrodes** containing cobalt tetrapyrazinoporphyrazine derivs. for use in oxygen reduction)
RN 31366-25-3 HCAPLUS
CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST fuel cell battery **cathode** catalyst oxygen redn cobalt tetrapyrazinoporphyrazine
IT Nanotubes
(carbon; **electrodes** containing cobalt tetrapyrazinoporphyrazine derivs. for use in oxygen reduction)
IT Battery **cathodes**
Fuel cell **cathodes**
(**electrodes** containing cobalt tetrapyrazinoporphyrazine derivs. for use in oxygen reduction)
IT Carbon black, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(**electrodes** containing cobalt tetrapyrazinoporphyrazine derivs. for use in oxygen reduction)
IT 11129-60-5, Manganese oxide 12710-12-2, Manganese hydroxide oxide

108916-22-9, Lanthanum manganese strontium oxide (La0.8MnSr0.2O3)
928144-72-3
RL: CAT (Catalyst use); USES (Uses)
(**electrodes** containing cobalt tetrapyrazinoporphyrazine derivs. for use in oxygen reduction)

IT 7440-57-5, Gold, uses 7782-42-5, Graphite, uses 9001-37-0, Glucose oxidase 12611-75-5, Nickel steel, uses **31366-25-3**, Tetrathiafulvalene
RL: TEM (Technical or engineered material use); **USES (Uses)**
(**electrodes** containing cobalt tetrapyrazinoporphyrazine derivs. for use in oxygen reduction)

IT 7440-44-0, Carbon, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(nanotubes; **electrodes** containing cobalt tetrapyrazinoporphyrazine derivs. for use in oxygen reduction)

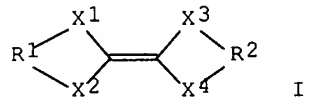
REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 3 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1352354 HCAPLUS Full-text
DOCUMENT NUMBER: 146:103951
TITLE: Power management system capable of keeping residual capacity of **electrochemical devices** within given range, and management method thereof
INVENTOR(S): Kuranuki, Masaaki; Inatomi, Yu
PATENT ASSIGNEE(S): Matsushita Electric Industrial Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 21pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006351418	A	20061228	JP 2005-177824	200506 17

PRIORITY APPLN. INFO.: JP 2005-177824 200506 17

OTHER SOURCE(S): MARPAT 146:103951
GI



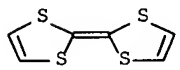
I

AB The title system comprises an **electrochem. device** (ECD), e.g., secondary batteries, load, and power generation unit, the ECD including a **cathode**, **anode** and liquid or solid electrolyte. Preferably, the **cathode** and/or **anode** contain cyclic

compds. I (R1, R2 = linear or cyclic aliphatic group; X1-X4 = S, O, Te) as active mass. The charge/discharge curve of the ECD has a plurality of steps, and a first voltage threshold (VT1) is set at or near an inflection point in an optional first step and second voltage threshold (VT2) at or near an inflection point in a second step on the lower voltage side. The system also comprises (a) means (M1) for judging that ECD voltage is near the VT1 or VT2, (b) a means (M2) for detecting current flowing into or out of the ECD, (c) a means (M3) for integrating outputs of the M2 after the M1 judges that ECD voltage is near the VT1 or VT2 to find a gradient of voltage to the integrated charge/discharge current. It also comprises (d) a charging/discharging controller for judging, when the gradient found by the M3 exceeds a given level, that residual capacity of the ECD increases to the level corresponding to the first step to start discharging electricity from the ECD, or that residual capacity of the ECD decreases to the level corresponding to the second step to start charging the ECD. The system can grasp residual capacity of the ECD relatively easily to keep the residual capacity within a given range. The title method is for managing the above system, comprising steps for implementing the functions (a) to (d).

IT **31366-25-3D**, derivs.
RL: TEM (Technical or engineered material use); **USES (Uses)**
(**cathode** and/or **anode** active mass; power management system with secondary batteries, load, and power generation unit)

RN 31366-25-3 HCAPLUS
CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
IT Battery **electrodes**
Process control
Secondary batteries
(power management system with secondary batteries, load, and power generation unit)
IT **31366-25-3D**, derivs.
RL: TEM (Technical or engineered material use); **USES (Uses)**
(**cathode** and/or **anode** active mass; power management system with secondary batteries, load, and power generation unit)

L55 ANSWER 4 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:1153680 HCAPLUS Full-text
DOCUMENT NUMBER: 145:481703
TITLE: Design and operation of a resistance switching memory cell with diode
INVENTOR(S): Krieger, Juri H.; Spitzer, Stuart
PATENT ASSIGNEE(S): Advanced Micro Devices, Inc., USA
SOURCE: U.S. Pat. Appl. Publ., 24pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 2006245235 A1 20061102 US 2005-119973 200505 02

WO 2006118800 A1 20061109 WO 2006-US14797 200604 19

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

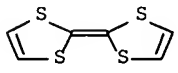
PRIORITY APPLN. INFO.: US 2005-119973 A 200505 02

AB The invention relates generally to the design and operation of resistance switching memory cells, and in particular to a memory cell with a diode component. Systems and methodologies are provided for forming a diode component operative (e.g., connected in series) with active and passive layer of a resistance switching memory cell to facilitate programming arrays of memory cells created therefrom. Such a diode component can be part of a memory cell having a passive and active layer. Such an arrangement reduces a number of transistor-type voltage controls and associated power consumption, while enabling individual memory cell programming as part of the array. Also, the system provides for an efficient placement of memory cells on a wafer surface, and increases an amount of die space available for circuit design.

IT **31366-25-3**
RL: DEV (Device component use); USES (Uses)
(device active layer; design and operation of a resistance switching memory cell with diode)

RN 31366-25-3 HCAPLUS

CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



INCL 365115000

CC 76-3 (Electric Phenomena)

IT Metallocenes
Polyacetylenes, uses
RL: DEV (Device component use); USES (Uses)
(design and operation of a resistance switching memory cell with diode)

IT 86-28-2, N-Ethylcarbazole 193-44-2, Tetrathiotetracene 574-93-6, Phthalocyanine 670-54-2, Tetracyanoethylene, uses 1518-16-7, Tetracyanoquinodimethane 9003-53-6, Polystyrene 9033-83-4, Poly(phenylene) 10043-11-5, Boron nitride, uses 12162-21-9, Hafnium selenide (HfSe2) 12299-51-3, Vanadium selenide (VSe2) 12680-08-9, Lithium titanium sulfide 25013-01-8, Polypyridine 25038-69-1, Polyphenylacetylene 25067-54-3, Polyfuran

25067-58-7, **Polyacetylene** 25989-14-4, Polydiphenylacetylene 26009-24-5, Poly(p-phenylene vinylene) 27290-25-1, Polyphthalocyanine 30604-81-0, Polypyrrole **31366-25-3** 82451-55-6, Polyindole 82451-56-7, Polyazulene 108167-10-8 117446-19-2, Hexadecafluorophthalocyanine 126213-51-2, Poly(ethylenedioxythiophene)
RL: DEV (Device component use); USES (Uses)
(device active layer; design and operation of a resistance switching memory cell with diode)

IT 7429-90-5, Aluminum, uses 7440-32-6, Titanium, uses
RL: DEV (Device component use); USES (Uses)
(**electrode**; design and operation of a resistance switching memory cell with diode)

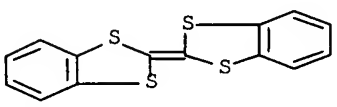
L55 ANSWER 5 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:916192 HCAPLUS Full-text
DOCUMENT NUMBER: 145:282680
TITLE: Organic semiconductor **devices**
INVENTOR(S): Takahashi, Yukihiro; Hasegawa, Tatsuo; Abe, Yasushi; Tokura, Yoshinori
PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science & Technology, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 11pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006237271	A	20060907	JP 2005-49759	200502 24
PRIORITY APPLN. INFO.:			JP 2005-49759	200502 24

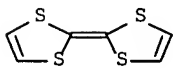
AB The semiconductor **devices** contain organic semiconductor layers and **electrodes** which have elec. conductive charge-transferring complexes made of electron donors and electron acceptors. The **electrodes** have 2 types: those which implant electron in the organic semiconductor layers, and those which implant hole.

IT **24648-13-3**, Dibenzotetrathiafulvalene **31366-25-3**, Tetrathiafulvalene
RL: DEV (Device component use); USES (Uses)
(TCNQ complex; organic semiconductor **devices** containing organic semiconductor layers and **electrodes** from charge transferring complexes)

RN 24648-13-3 HCAPLUS
CN 1,3-Benzodithiole, 2-(1,3-benzodithiol-2-ylidene)- (CA INDEX NAME)



RN 31366-25-3 HCAPLUS
CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
ST org semiconductor **device electrode**; charge transferring complex electron hole implant
IT Electron donors
(complexes with electron acceptors; organic semiconductor **devices** containing organic semiconductor layers and **electrodes** from charge transferring complexes)
IT Electron acceptors
(complexes with electron donors; organic semiconductor **devices** containing organic semiconductor layers and **electrodes** from charge transferring complexes)
IT **Electrodes**
(organic semiconductor **devices** containing organic semiconductor layers and **electrodes** from charge transferring complexes)
IT Field effect transistors
(organic; organic semiconductor **devices** containing organic semiconductor layers and **electrodes** from charge transferring complexes)
IT **24648-13-3**, Dibenzotetrathiafulvalene **31366-25-3**, Tetrathiafulvalene
RL: DEV (Device component use); USES (Uses)
(TCNQ complex; organic semiconductor **devices** containing organic semiconductor layers and **electrodes** from charge transferring complexes)
IT 1518-16-7, TCNQ 29261-33-4, Tetrafluorotetracyanoquinodimethane
RL: DEV (Device component use); USES (Uses)
(dibenzotetrathiafulvalene complex; organic semiconductor **devices** containing organic semiconductor layers and **electrodes** from charge transferring complexes)

L55 ANSWER 6 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:763141 HCAPLUS Full-text
DOCUMENT NUMBER: 145:177443
TITLE: Organic thin film transistor for flat panel display device
INVENTOR(S): Ahn, Taek; Koo, Jae-Bon; Suh, Min-Chul
PATENT ASSIGNEE(S): S. Korea
SOURCE: U.S. Pat. Appl. Publ., 12 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006169974	A1	20060803	US 2006-338089	200601

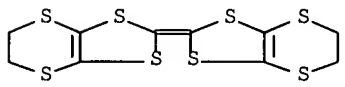
KR 2006087137	A	20060802	KR 2005-7995	24 200501 28
CN 1841807	A	20061004	CN 2006-10008937	200601 28
JP 2006210930	A	20060810	JP 2006-21410	200601 30
PRIORITY APPLN. INFO.:			KR 2005-7995 A	200501 28

AB Provided are a thin film transistor, a method of manufacturing the same, and a flat panel display device including the thin film transistor. The thin film transistor includes: a gate **electrode**; source and drain **electrodes** insulated from the gate **electrode**; an organic semiconductor layer that is insulated from the gate **electrode** and elec. connected to the source and drain **electrodes**; an insulating layer that insulates the gate **electrode** from the source and drain **electrodes** or the organic semiconductor layer; and a channel formation-promoting layer that contacts an opposite region of a channel region of the organic semiconductor layer, and contains a compound having a functional group, which fixes elec. charges moving toward the opposite region of the channel region to the opposite region of the channel region. Thus, the thin film transistor has a low threshold voltage and excellent elec. charge mobility.

IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
RL: DEV (Device component use); USES (Uses)
(electron donor for organic thin film transistor for flat panel display **device**)

RN 66946-48-3 HCAPLUS

CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



INCL 257040000

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)
Section cross-reference(s): 76

IT 275-51-4, Azulene 632-51-9, Tetraphenylethylene 15570-45-3, 1,2,3,4-Tetraphenyl-1,3-cyclopentadiene **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene 126213-51-2, Poly(3,4-ethylenedioxythiophene)
RL: DEV (Device component use); USES (Uses)
(electron donor for organic thin film transistor for flat panel display **device**)

L55 ANSWER 7 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER:	2006:734542 HCAPLUS Full-text
DOCUMENT NUMBER:	145:198513
TITLE:	Electroluminescent device fabrication by spin coating electroluminescent organometallic complexes on coated substrates
INVENTOR(S):	Kathirgamanathan, Poopathy; Ganeshamurugan,

Subramaniam; Price, Richard
PATENT ASSIGNEE(S): Oled-T Limited, UK
SOURCE: PCT Int. Appl., 51 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006077402	A1	20060727	WO 2006-GB169	200601 19

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

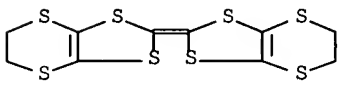
PRIORITY APPLN. INFO.: GB 2005-1426 A 200501 22

OTHER SOURCE(S): MARPAT 145:198513

AB Methods of forming electroluminescent devices are described which entail depositing by spin coating a layer of an electroluminescent organometallic complex on a substrate (which is the **anode**) which is coated with a layer of a polymer. The polymer is preferably a conductive or charge-transporting polymer or material.

IT **66946-48-3D**, derivs.
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(electroluminescent **device** fabrication by spin coating electroluminescent organometallic complexes on coated substrates)

RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

IT 86-73-7D, 9H-Fluorene, derivs. 159-66-0D, 9,9'-Spirobi[9H-fluorene], derivs. 193-44-2 905-62-4 1217-45-4, 9,10-Dicyanoanthracene 2085-33-8, Tris(8-hydroxyquinolinato)aluminum 4733-39-5, Bathocuproin 5521-31-3D,

derivs. 7429-90-5, Aluminum, uses 7439-93-2, Lithium, uses 7439-95-4, Magnesium, uses 7440-03-1D, Niobium, compds. 7440-04-2D, Osmium, compds. 7440-05-3D, Palladium, compds. 7440-06-4D, Platinum, compds. 7440-16-6D, Rhodium, compds. 7440-18-8D, Ruthenium, compds. 7440-25-7D, Tantalum, compds. 7440-32-6D, Titanium, compds. 7440-39-3, Barium, uses 7440-58-6D, Hafnium, compds. 7440-62-2D, Vanadium, compds. 7440-70-2, Calcium, uses 7789-24-4, Lithium fluoride, uses 15082-28-7 17595-05-0 19414-67-6 23467-27-8 25067-59-8, Poly(vinylcarbazole) 25135-15-3D, derivs. 25233-30-1, Polyaniline 25387-93-3 26009-24-5, Poly(p-phenylenevinylene)-31366-25-3D, derivs. 37271-44-6 58280-31-2 58328-31-7, CBP 58328-31-7D, derivs. 65181-78-4, N,N'-Diphenyl-N,N'-bis(3-methylphenyl)-1,1'-biphenyl-4,4'-diamine **66946-48-3D**, derivs. 95270-88-5D, derivs. 98038-22-3, Aniline-m-sulfanilic acid copolymer 121220-44-8, o-Ethylaniline-o-toluidine copolymer 123847-85-8 124729-98-2 126415-16-5, Aniline-o-anisidine copolymer 126415-18-7, o-Aminophenol-aniline copolymer 126415-20-1, o-Aminophenol-o-toluidine copolymer 126415-22-3, o-Phenylenediamine-o-toluidine copolymer 135804-06-7 138372-67-5 142289-08-5D, derivs. 146162-54-1 148044-16-0 148896-39-3 150405-69-9 157755-87-8 203642-12-0D, derivs. 214341-85-2D, derivs. 221455-80-7 300576-41-4 432042-07-4 432042-08-5 474974-61-3 474974-62-4 647838-95-7 861532-86-7D, [9,9'-Bianthracene]-10,10'-diamine, N-aryl derivs. 863714-50-5 902119-35-1
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(electroluminescent **device** fabrication by spin coating electroluminescent organometallic complexes on coated substrates)

REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 8 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:440184 HCAPLUS Full-text
DOCUMENT NUMBER: 144:479200
TITLE: Organic-complex thin film with bistability for nonvolatile memory and electrooptic device applications
INVENTOR(S): Yang, Yang; Ouyang, Jianyong; Chu, Chih-Wei
PATENT ASSIGNEE(S): USA
SOURCE: PCT Int. Appl., 25 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006050052	A2	20060511	WO 2005-US38849	200510 27
WO 2006050052	A3	20060629		

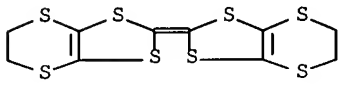
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,

KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG,
MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT,
TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
PRIORITY APPLN. INFO.: US 2004-623721P P 200410 28

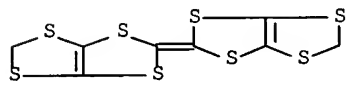
AB The present invention relates to an organic composite material having bistability of an elec. property, electronic or electrooptic devices having the organic composite material and methods of use. An electronic or electrooptic device according to an embodiment of this invention has a 1st **electrode**, a 2nd **electrode** spaced apart from the 1st **electrode**, and an organic composite layer disposed between the 1st **electrode** and the 2nd **electrode**. The organic composite layer is composed of an electron donor material, an electron acceptor material, and a polymer matrix material. The organic composite layer exhibits substantial bistability of an elec. property.

IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
68550-20-9, Bis(methylenedithio)tetrathiafulvalene
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(electron donor; organic-complex thin film with bistability for nonvolatile memory and electrooptic **device** applications)

RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



RN 68550-20-9 HCAPLUS
CN [1,3]Dithiolo[4,5-d]-1,3-dithiole, [1,3]dithiolo[4,5-d]-1,3-dithiolylidene- (9CI) (CA INDEX NAME)



IC ICM H01L
CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38, 73
IT 102-54-5, Ferrocene 147-14-8, Copper phthalocyanine 14320-04-8, Zinc(II) phthalocyanine 31366-25-3, Tetrathiafulvalene 50708-37-7, Tetramethyltetrathiafulvalene 54489-01-9, Tetraselenafulvalene 55259-49-9, Tetramethyltetraselenafulvalene **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene

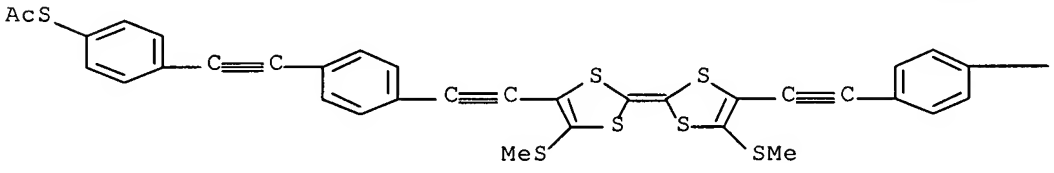
68550-20-9, Bis(methylenedithio)tetrathiafulvalene
101683-17-4, Dimethyl(ethylenedithio)diselenadithiafulvalene
152588-53-9, 2,5-Bis(1,3-dithiol-2-ylidene)-1,3,4,6-tetrathiapentalene
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(electron donor; organic-complex thin film with bistability for nonvolatile memory and electrooptic **device** applications)

L55 ANSWER 9 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:348925 HCAPLUS Full-text
DOCUMENT NUMBER: 145:46342
TITLE: Synthesis and characterization of new type molecular wires with tetrathiafulvalene as redox center
AUTHOR(S): Wang, Erjing; Li, Hongxiang; Hu, Wenping; Zhu, Daoben
CORPORATE SOURCE: Key Laboratory of Organic Solids, Institute of Chemistry, Chinese Academy of Sciences, Beijing, 100080, Peop. Rep. China
SOURCE: Journal of Polymer Science, Part A: Polymer Chemistry (2006), 44(8), 2707-2713
CODEN: JPACEC; ISSN: 0887-624X
PUBLISHER: John Wiley & Sons, Inc.
DOCUMENT TYPE: Journal
LANGUAGE: English

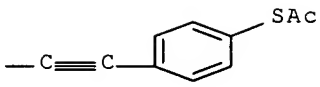
AB A new type of mol. wire 1a-c with tetrathiafulvalene (TTF) units was synthesized and characterized. The UV-vis spectra and electrochem. results showed that comparing with PPE, these polymers had smaller HOMO-LUMO band gap, and the HOMO level of polymer 1a (-5.05 eV) was closer to the work function energy of Au **electrode**. Thermal stability analyses indicated that these polymers had good thermal stability. All of the results showed that the introduction of TTF units made polymers 1a-c better candidates for mol. wires than PPE.

IT **889877-62-7P 889877-63-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model compound; synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
RN 889877-62-7 HCAPLUS
CN Ethanethioic acid, S-[4-[[4-[[2-[4-[[4-[[4-(acetylthio)phenyl]ethynyl]phenyl]ethynyl]-5-(methylthio)-1,3-dithiol-2-ylidene]-5-(methylthio)-1,3-dithiol-4-yl]ethynyl]phenyl]ethynyl]phenyl] ester (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RN 889877-63-8 HCAPLUS
CN Benzonitrile, 4-[[4-[[2-[4-[[4-[(4-cyanophenyl)ethynyl]phenyl]ethynyl]-5-(methylthio)-1,3-dithiol-2-ylidene]-5-(methylthio)-1,3-dithiol-4-yl]ethynyl]phenyl]ethynyl]- (9CI) (CA INDEX NAME)

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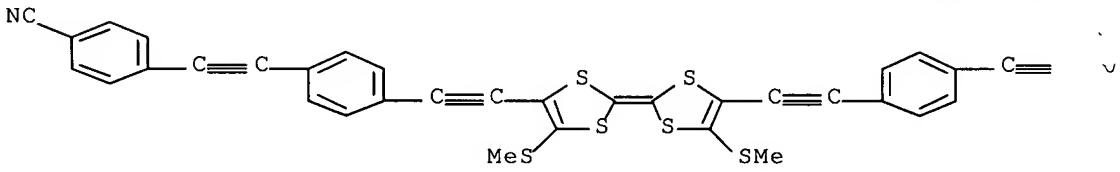
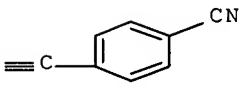
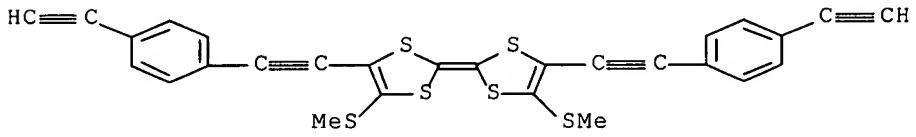


PAGE 1-B



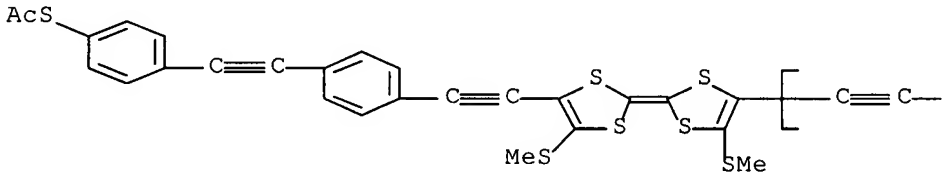
IT **889877-61-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
RN 889877-61-6 HCAPLUS
CN 1,3-Dithiole, 4-[(4-ethynylphenyl)ethynyl]-2-[4-[(4-ethynylphenyl)ethynyl]-5-(methylthio)-1,3-dithiol-2-ylidene]-5-(methylthio)- (9CI) (CA INDEX NAME)



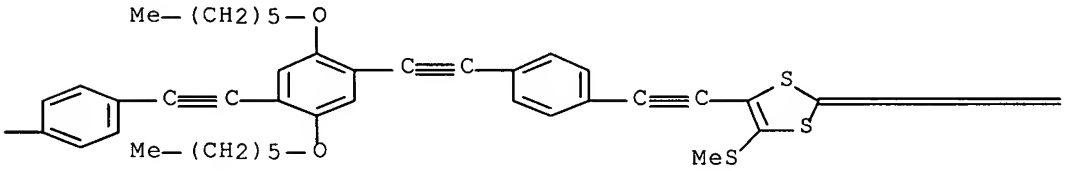
IT **889877-65-0P 889877-66-1P 889877-67-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
RN 889877-65-0 HCAPLUS
CN Poly[[4-(methylthio)-1,3-dithiol-4-yl-2-ylidene][4-(methylthio)-1,3-dithiol-4-yl-2-ylidene]-1,2-ethynediyl-1,4-phenylene-1,2-

ethynediyl[2,5-bis(hexyloxy)-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl], α-[[4-[[4-(acetylthio)phenyl]ethynyl]phenyl]ethynyl]-ω-[2-[4-[[4-[[4-(acetylthio)phenyl]ethynyl]phenyl]ethynyl]-5-(methylthio)-1,3-dithiol-2-ylidene]-5-(methylthio)-1,3-dithiol-4-yl]- (9CI) (CA INDEX NAME)

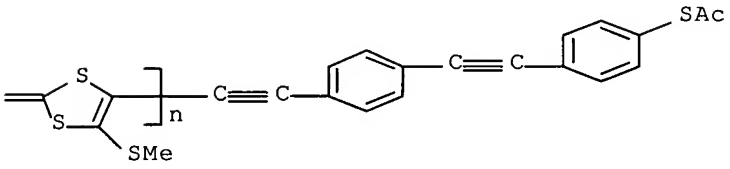
PAGE 1-A



PAGE 1-B



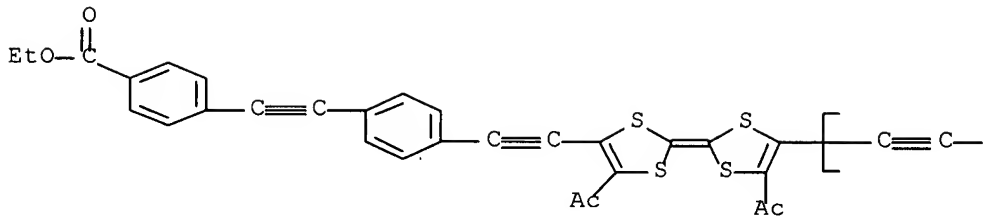
PAGE 1-C



RN 889877-66-1 HCAPLUS

CN Poly[(4-acetyl-1,3-dithiol-4-yl-2-ylidene)(4-acetyl-1,3-dithiol-4-yl-2-ylidene)-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl[2,5-bis(hexyloxy)-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl], α-[[4-[[4-(ethoxycarbonyl)phenyl]ethynyl]phenyl]ethynyl]-ω-[5-acetyl-2-[5-acetyl-4-[[4-[[4-(ethoxycarbonyl)phenyl]ethynyl]phenyl]ethynyl]-1,3-dithiol-2-ylidene]-1,3-dithiol-4-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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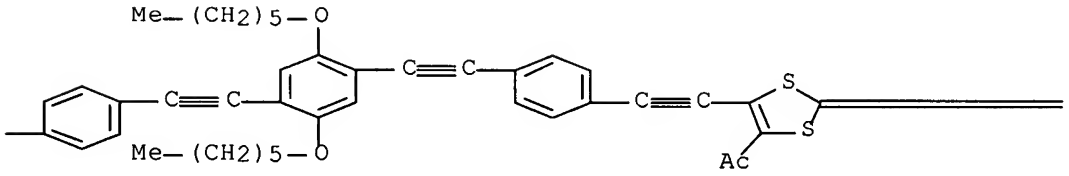

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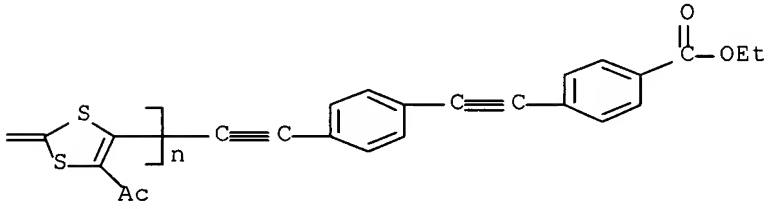
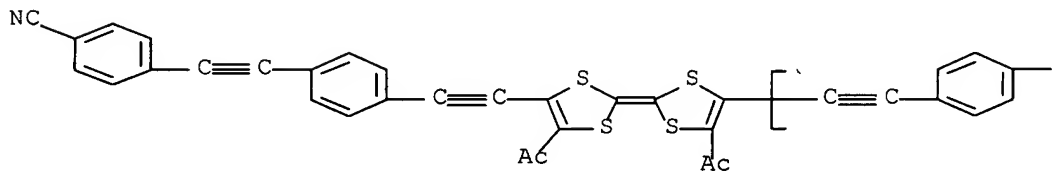


RN 889877-67-2 HCAPLUS

CN Poly[(4-acetyl-1,3-dithiol-4-yl-2-ylidene)(4-acetyl-1,3-dithiol-4-yl-2-ylidene)-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl[2,5-bis(hexyloxy)-1,4-phenylene]-1,2-ethynediyl-1,4-phenylene-1,2-ethynediyl], α-[[4-[(4-cyanophenyl)ethynyl]phenyl]ethynyl]-ω-[5-acetyl-2-[5-acetyl-4-[[4-[(4-cyanophenyl)ethynyl]phenyl]ethynyl]-1,3-dithiol-2-ylidene]-1,3-dithiol-4-yl]- (9CI) (CA INDEX NAME)

PAGE 1-A



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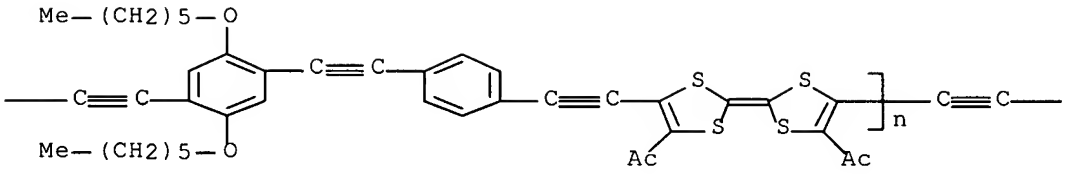
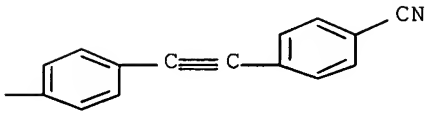
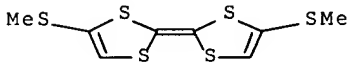


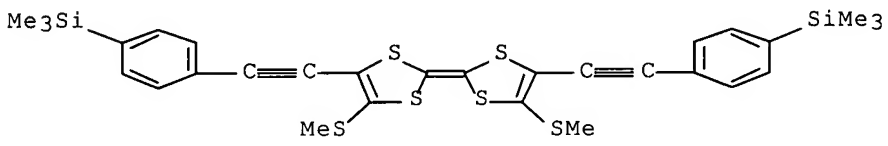
PAGE 1-C



IT **150856-39-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
RN 150856-39-6 HCAPLUS
CN 1,3-Dithiole, 4-(methylthio)-2-[4-(methylthio)-1,3-dithiol-2-ylidene]- (9CI) (CA INDEX NAME)



IT **889877-60-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
RN 889877-60-5 HCAPLUS
CN Silane, trimethyl[4-[[5-(methylthio)-2-[4-(methylthio)-5-[[4-(trimethylsilyl)phenyl]ethynyl]-1,3-dithiol-2-ylidene]-1,3-dithiol-4-yl]ethynyl]phenyl]- (9CI) (CA INDEX NAME)



CC 35-7 (Chemistry of Synthetic High Polymers)
Section cross-reference(s): 76

ST tetrathiafulvalene **polyacetylene** redox mol wire synthesis
IT **Polyacetylenes**, preparation
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
IT **889877-62-7P 889877-63-8P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(model compound; synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
IT **889877-61-6P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(monomer; synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
IT 889877-64-9DP, acetylthiophenyl-, etoxycarbonylphenyl- or cyanophenyl- endcapped **889877-65-0P 889877-66-1P 889877-67-2P**
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)
(synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
IT 624-73-7, 1,2-Diiodoethane 66228-76-0 **150856-39-6**
RL: RCT (Reactant); RACT (Reactant or reagent)
(synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
IT 889877-59-2P **889877-60-5P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(synthesis and characterization of mol. wires with tetrathiafulvalene as redox center)
REFERENCE COUNT: 45 THERE ARE 45 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 10 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:193499 HCAPLUS Full-text
DOCUMENT NUMBER: 144:263346
TITLE: Electron injecting composition including a benzoxazole derivative and an electron donating organic compound, and light-emitting element and light-emitting device using the electron injecting composition
INVENTOR(S): Nakamura, Yasuo; Nomura, Ryoji
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE: PCT Int. Appl., 52 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2006022194	A1	20060302	WO 2005-JP15110	200508 12

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA,

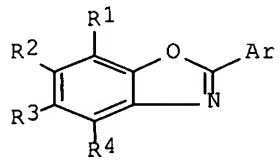
CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM,
KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN,
MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU,
SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA,
UG, US, UZ, VC, VN, YU, ZA, ZM, ZW
RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU,
IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD,
TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

JP 2006093673 A 20060406 JP 2005-240682 200508 23

PRIORITY APPLN. INFO.: JP 2004-242984 A 200408 23

OTHER SOURCE(S): MARPAT 144:263346

GI



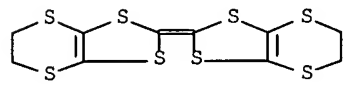
I

AB Electron-injecting compns. are described which comprise a benzoxazole derivative indicated by a general formula (I), and an electron donating organic compound, where Ar represents an aryl group, each of R1-4 represents hydrogen, halogen, a cyano group, an alkyl group having 1 to 10 C atoms, a haloalkyl group having 1 to 10 C atoms, an alkoxyl group having 1 to 10 C atoms, a substituted or unsubstituted aryl group, or a substituted or unsubstituted heterocyclic group. Light-emitting elements and devices employing the electron-injecting compns. are also discussed.

IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
120120-58-3
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(electron donor; electron injecting composition including benzoxazole derivative and electron donating organic compound, and light-emitting element and light-emitting **device** using electron injecting composition)

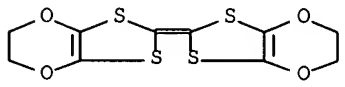
RN 66946-48-3 HCAPLUS

CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



RN 120120-58-3 HCAPLUS

CN 1,3-Dithiolo[4,5-b][1,4]dioxin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dioxin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



IC ICM H05B033-22
ICS C09K011-06; H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 28, 76
IT 7440-32-6, Titanium, uses 25583-20-4, Titanium nitride
RL: DEV (Device component use); USES (Uses)
(**anode** layer; electron injecting composition including benzoxazole derivative and electron donating organic compound, and light-emitting element and light-emitting device using electron injecting composition)
IT 50926-11-9, Indium tin oxide
RL: DEV (Device component use); USES (Uses)
(**anode, cathode**; electron injecting composition including benzoxazole derivative and electron donating organic compound, and light-emitting element and light-emitting device using electron injecting composition)
IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
120120-58-3
RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)
(electron donor; electron injecting composition including benzoxazole derivative and electron donating organic compound, and light-emitting element and light-emitting **device** using electron injecting composition)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 11 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:168071 HCAPLUS Full-text
DOCUMENT NUMBER: 144:222318
TITLE: Electronic **device** having an **electrode** with enhanced injection properties
INVENTOR(S): Brunschwiler, Thomas; Karg, Siegfried F.; Riess, Walter
PATENT ASSIGNEE(S): International Business Machines Corporation, USA
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

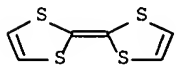
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2006038170	A1	20060223	US 2005-205232	200508

CN 1738069	A	20060222	CN 2005-10077099	16 200506 15
PRIORITY APPLN. INFO.:			EP 2004-405511	A 200408 17

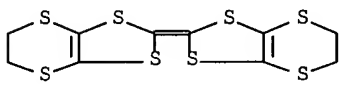
AB A method of fabricating an electronic **device** (e.g., electroluminescent **device**) having a first **electrode** is described entailing providing the first **electrode**, depositing a first layer of mol. charge transfer material, which may be an acceptor such as F4-TCNQ, TNF, TeNF, TCNQ, TN9(CN)2F, TCNB, TeCIBQ, TeFTCNQ, DCNQI and TCAQ or a donor such as TTF, TTN, BEDT-TTF, Terpy, Ru(terpy)2 and crystal violet, on the first **electrode**, and crosslinking the mol. charge transfer material (by e.g., UV irradiation). A **device** to fabricate the electronic **device** is also described.

IT **31366-25-3**, TTF **66946-48-3**, BEDT-TTF
RL: DEV (Device component use); USES (Uses)
(donor; electronic **device** having crosslinked charge transfer material on **electrode**)

RN 31366-25-3 HCAPLUS
CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



INCL 257040000; 427058000; 427402000; 427487000; 313504000; 313506000; 428690000; 428917000; 428411100; 118620000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
ST electronic **device** crosslinked charge transfer material
IT Crosslinking
(charge transfer material; electronic **device** having crosslinked charge transfer material on **electrode**)
IT Electric apparatus
Electroluminescent **devices**
Semiconductor **device** fabrication
(electronic **device** having crosslinked charge transfer material on **electrode**)
IT 129-79-3, TNF 712-74-3, TCNB 746-53-2 1172-02-7 1518-16-7, TCNQ 15517-55-2 29261-33-4, F4-TCNQ 64374-47-6 70359-39-6 98507-05-2, DCNQI
RL: DEV (Device component use); USES (Uses)
(acceptor; electronic **device** having crosslinked charge

transfer material on **electrode**)

IT 548-62-9, Crystal violet 1148-79-4, 2,2':6',2''-Terpyridine **31366-25-3**, TTF 56348-14-2 **66946-48-3**, BEDT-TTF 143255-97-4
RL: DEV (Device component use); USES (Uses)
(donor; electronic **device** having crosslinked charge transfer material on **electrode**)

L55 ANSWER 12 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:143966 HCAPLUS Full-text
DOCUMENT NUMBER: 144:224024
TITLE: Organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**
INVENTOR(S): Hasegawa, Tatsuo; Takahashi, Yukihiro; Abe, Yasushi; Tokura, Yoshinori
PATENT ASSIGNEE(S): National Institute of Advanced Industrial Science & Technology, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006049578	A	20060216	JP 2004-228575	20040804
PRIORITY APPLN. INFO.:			JP 2004-228575	20040804

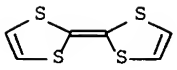
AB The title semiconductor **device** has an organic semiconductor layer formed across over 2 **electrodes** which are provided on an insulator layer on a semiconductor substrate, wherein a gate contact is provided directly on the semiconductor substrate. The **electrodes** contain an electron donor in combination to an electron acceptor which has an ionization energy same or similar to that of a semiconductor compound mol. to give a conductive charge transfer complex compound and consequently to give the n-organic HEMTs and semiconductor **devices**. The **devices** may be organic HEMTs, organic electroluminescence diodes, or organic solar cells.

IT **40210-84-2**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(high electron mobility complex compound, for **electrodes**; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)

RN 40210-84-2 HCAPLUS
CN Propanedinitrile, 2,2'-(2,5-cyclohexadiene-1,4-diylidene)bis-, compd. with 2-(1,3-dithiol-2-ylidene)-1,3-dithiole (1:1) (CA INDEX NAME)

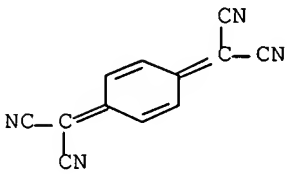
CM 1

CRN 31366-25-3
CMF C6 H4 S4



CM 2

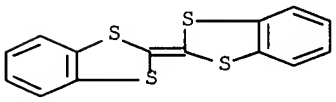
CRN 1518-16-7
CMF C12 H4 N4



IT **54928-14-2**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(single crystalline, organic semiconductor; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
RN 54928-14-2 HCAPLUS
CN Propanedinitrile, 2,2'-(2,5-cyclohexadiene-1,4-diylidene)bis-, compd. with 2-(1,3-benzodithiol-2-ylidene)-1,3-benzodithiole (1:1) (9CI) (CA INDEX NAME)

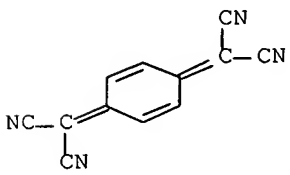
CM 1

CRN 24648-13-3
CMF C14 H8 S4



CM 2

CRN 1518-16-7
CMF C12 H4 N4



CC 76-3 (Electric Phenomena)
Section cross-reference(s): 38
ST conductive charge transfer complex compd **electrode** org semiconductor **device**; electron donor acceptor ionization energy conductive charge transfer complex
IT Luminescence, electroluminescence
(diodes, organic; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT Electric current-potential relationship
(drain current vs. gate or drain voltage; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT Electron acceptors
Electron donors
(**electrode** composition, for organic semiconductor materials; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT Charge transfer complexes
RL: MOA (Modifier or additive use); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(**electrode** composition, for organic semiconductor materials; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT Diodes
(organic electroluminescence; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT High-electron-mobility transistors
Solar cells
(organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT Optical imaging **devices**
(organic semiconductor **devices**; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT Semiconductor **devices**
Semiconductor materials
(organic; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT 69736-15-8, Polyperylene
RL: PRP (Properties)
(elec. insulator, for organic semiconductor **devices**; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT 7440-22-4, Silver, properties
RL: PRP (Properties)
(gate contact; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT **40210-84-2**
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(high electron mobility complex compound, for **electrodes**; organic semiconductor **devices** provided with conductive charge transfer complex compound **electrodes**)
IT **54928-14-2**
RL: PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(single crystalline, organic semiconductor; organic semiconductor **devices** provided with conductive charge transfer complex

compound **electrodes**)

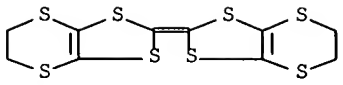
L55 ANSWER 13 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2006:46720 HCAPLUS Full-text
DOCUMENT NUMBER: 144:140448
TITLE: Two-terminal semiconductor device using abrupt metal-insulator transition semiconductor material
INVENTOR(S): Kim, Hyun Tak; Youn, Doo Hyeb; Chae, Byung Gyu; Kang, Kwang Yong; Lim, Yong Sik; Kim, Gyungock; Maeng, Sunglyul; Kim, Seong Hyun
PATENT ASSIGNEE(S): Electronics and Telecommunications Research Institute, S. Korea
SOURCE: Eur. Pat. Appl., 35 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1617482	A2	20060118	EP 2004-257769	200412 14
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, BA, HR, IS, YU				
KR 2006006195	A	20060119	KR 2004-55096	200407 15
US 2006011942	A1	20060119	US 2004-11878	200412 13
CN 1722489	A	20060118	CN 2004-10103374	200412 20
JP 2006032898	A	20060202	JP 2004-381971	200412 28
PRIORITY APPLN. INFO.:			KR 2004-55096 A	200407 15

AB Provided is a 2-terminal semiconductor device that uses an abrupt MIT semiconductor material layer. The 2-terminal semiconductor device includes a 1st **electrode** layer, an abrupt MIT semiconductor organic or inorg. material layer having an energy gap <2 eV and holes in a hole level disposed on the 1st **electrode** layer, and a 2nd **electrode** layer disposed on the abrupt MIT semiconductor organic or inorg. material layer. An abrupt MIT is generated in the abrupt MIT semiconductor material layer by a field applied between the 1st **electrode** layer and the 2nd **electrode** layer.

IT **66946-48-3**, BEDT-TTF
RL: DEV (Device component use); USES (Uses)
(two-terminal semiconductor **device** using abrupt metal-insulator transition semiconductor material)

RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



CC 76-3 (Electric Phenomena)
IT 100-22-1, N,N,N',N'-Tetramethyl-p-phenylenediamine 110-02-1, Thiophene 110-02-1D, Thiophene, derivs. 135-48-8, Pentacene 409-21-2, Silicon carbide (SiC), uses 574-93-6, Phthalocyanine 1303-00-0, Gallium arsenide (GaAs), uses 1303-11-3, Indium arsenide (InAs), uses 1304-82-1, Bismuth telluride (Bi2Te3) 1306-24-7, Cadmium selenide (CdSe), uses 1306-25-8, Cadmium telluride (CdTe), uses 1313-96-8, Niobium oxide (Nb2O5) 1314-08-5, Palladium oxide (PdO) 1314-23-4, Zirconium oxide (ZrO2), uses 1314-34-7, Vanadium oxide (V2O3) 1314-35-8, Tungsten oxide (WO3), uses 1314-36-9, Yttrium oxide (Y2O3), uses 1314-61-0, Tantalum oxide (Ta2O5) 1314-87-0, Lead sulfide (PbS) 1314-91-6, Lead telluride (PbTe) 1314-98-3, Zinc sulfide (ZnS), uses 1315-09-9, Zinc selenide (ZnSe) 1315-11-3, Zinc telluride (ZnTe) 1317-33-5, Molybdenum sulfide (MoS2), uses 1317-61-9, Iron oxide (Fe3O4), uses 1344-28-1, Alumina, uses 1344-54-3, Titanium oxide (Ti2O3) 1518-16-7, Tetracyano-p-quinodimethane 7440-02-0, Nickel, uses 7440-06-4, Platinum, uses 7440-21-3, Silicon, uses 7440-31-5, Tin, uses 7440-36-0, Antimony, uses 7440-42-8, Boron, uses 7440-44-0, Carbon, uses 7440-47-3, Chromium, uses 7440-55-3, Gallium, uses 7440-56-4, Germanium, uses 7440-57-5, Gold, uses 7440-66-6, Zinc, uses 7440-69-9, Bismuth, uses 7631-86-9, Silica, uses 7723-14-0, Phosphorus, uses 7782-49-2, Selenium, uses 10043-11-5, Boron nitride (BN), uses 11092-25-4, Rhodium phosphide (RhP2) 11126-12-8, Iron sulfide 11148-21-3 12006-01-8, Ruthenium arsenide phosphide (RuAsP) 12006-29-0, Osmium arsenide (OsAs2) 12006-30-3, Ruthenium arsenide (RuAs2) 12007-99-7, Calcium boride (CaB6) 12010-63-8, Bismuth germanium telluride (Bi2GeTe4) 12011-54-0, Boron carbide (BC) 12020-69-8, Europium telluride (EuTe) 12022-99-0, Iron silicide (FeSi2) 12030-51-2, Iridium sulfide (IrS2) 12030-55-6, Iridium selenide (IrSe2) 12032-88-1, Manganese telluride (MnTe) 12037-59-1, Osmium phosphide (OsP2) 12037-73-9, Ruthenium phosphide (RuP2) 12038-20-9, Platinum sulfide (PtS) 12038-21-0D, Platinum sulfide (PtS2), platinum-deficient 12038-63-0, Rhenium sulfide (ReS2) 12038-64-1, Rhenium selenide (ReSe2) 12038-74-3, Rhodium sulfide (RhS3) 12038-76-5, Rhodium selenide (RhSe2) 12038-77-6, Rhodium selenide (RhSe3) 12039-13-3D, Titanium sulfide (TiS2), titanium-excess 12039-49-5, Samarium selenide (SmSe) 12039-54-2, Ytterbium selenide (YbSe) 12041-54-2, Aluminum boride (AlB12) 12044-16-5, Iron arsenide (FeAs) 12055-23-1, Hafnium oxide (HfO2) 12058-20-7D, Molybdenum telluride (MoTe2), tellurium-deficient 12063-98-8, Gallium phosphide (GaP), uses 12064-03-8, Gallium antimonide 12067-46-8, Tungsten selenide (WSe2) 12068-85-8, Iron sulfide (FeS2) 12069-00-0, Lead selenide (PbSe) 12125-57-4, Samarium telluride (SmTe) 12125-58-5, Ytterbium telluride (YbTe) 12162-21-9, Hafnium selenide (HfSe2) 12166-20-0, Ruthenium sulfide (RuS2) 12166-21-1, Ruthenium selenide (RuSe2) 12166-24-4, Ruthenium silicide (Ru2Si3) 12166-32-4, Zirconium sulfide (Zr2S3) 12166-47-1D, Zirconium selenide (ZrSe2), zirconium-excess 12166-53-9, Zirconium selenide (ZrSe3) 12280-05-6, Yttrium boride

(YB66) 12298-87-2, Manganese silicide (Mn15Si26) 12325-92-7, Manganese silicide (Mn26Si45) 12337-64-3, Rhodium arsenide (RhAs2) 12345-98-1, Europium sulfide (Eu3S4) 12384-18-8, Manganese silicide (Mn11Si19) 12423-80-2D, Titanium sulfide (TiS3), sulfur-deficient 12626-76-5, Iron silicide 13463-67-7, Titanium oxide (TiO2), uses 13494-80-9, Tellurium, uses 15122-76-6, Antimony silver telluride (SbAgTe2) 16150-59-7, Antimony germanium telluride (Sb2GeTe4) 22398-80-7, Indium phosphide (InP), uses 22831-42-1, Aluminum arsenide (AlAs) 25152-52-7, Aluminum antimonide 25617-98-5, Indium nitride (InN) 29678-92-0, Samarium sulfide (SmS) 31366-25-3 34209-23-9, Iridium phosphide (IrP2) 34312-50-0, Technetium sulfide (TcS2) 34312-51-1, Technetium selenide 34312-54-4, Iridium arsenide (IrAs2) 37322-42-2, Samarium boride (SmB66) 52503-00-1, Germanium telluride 54427-07-5, Copper boride 55802-59-0 **66946-48-3**, BEDT-TTF 68898-36-2, Ruthenium phosphide (RuP4) 80146-65-2, Aluminum lithium boride (AlLiB14) 81207-86-5 85906-36-1, Ruthenium arsenide sulfide (RuAsS) 85906-39-4, Osmium phosphide sulfide (OsPS) 85906-40-7, Osmium phosphide selenide (OsPSe) 85906-41-8, Osmium arsenide sulfide (OsAsS) 104934-50-1, Poly(3-hexylthiophene) 104934-51-2, Poly(3-octylthiophene) 104934-53-4, Poly(3-dodecylthiophene) 106070-23-9, Aluminum indium arsenide 106070-25-1, Gallium indium arsenide 109064-29-1, Barium copper yttrium oxide (Ba2Cu3YO7) 113644-78-3 123352-77-2 133087-53-3, Iron manganese silicide ((Fe,Mn)Si2) 133426-01-4, Cobalt iron silicide ((Co,Fe)Si2) 137433-52-4, Potassium fulleride (K6C60) 137751-55-4 140471-84-7, Potassium fulleride (K4C60) 155217-08-6, Cadmium germanium sulfide 263748-31-8
RL: DEV (Device component use); USES (Uses)
(two-terminal semiconductor **device** using abrupt metal-insulator transition semiconductor material)

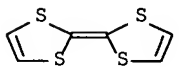
L55 ANSWER 14 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:497080 HCAPLUS Full-text
DOCUMENT NUMBER: 143:51861
TITLE: Thin film transistor
INVENTOR(S): Takenobu, Hiroshi; Iwasa, Yoshihiro
PATENT ASSIGNEE(S): Japan Science and Technology Agency, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2005150410	A	20050609	JP 2003-386114	200311 17

PRIORITY APPLN. INFO.: JP 2003-386114 200311 17

AB A stable thin film transistor having a high mobility comprises a gate **electrode**, a gate insulator film on the gate **electrode**, source and drain **electrodes** on the gate insulator film, and a semiconductor film of C nanotubes and their combination with other material between the source and drain **electrodes**. Specifically, the other material may comprise a fullerene, metal-containing fullerene.

IT **31366-25-3**, TTF
RL: DEV (Device component use); USES (Uses)
(carbon nanotube thin film transistor)
RN 31366-25-3 HCAPLUS
CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



IC ICM H01L029-786
ICS H01L029-06; H01L051-00
CC 76-3 (Electric Phenomena)
IT Fullerenes
Fullerides
Polyacetylenes, uses
RL: DEV (Device component use); USES (Uses)
(carbon nanotube thin film transistor)
IT 110-02-1D, Thiophene, 3-alkyl, homopolymers 128-65-4 135-48-8, Pentacene 574-93-6, Phthalocyanine 1081-34-1, 2,2':5',2''-Terthiophene 1518-16-7, TCNQ 9002-86-2, Polyvinyl chloride 9002-88-4, Polyethylene 9002-98-6, PEI 9003-53-6, Polystyrene 14916-87-1 25067-58-7, **Polyacetylene** 25233-34-5, Poly-thiophene 29261-33-4 **31366-25-3**, TTF 55259-49-9, TMTSF 66280-99-7, Polythienylenevinylene 78151-58-3 88493-55-4, α-Sexithiophene 97606-53-6 99685-96-8, [5,6]Fullerene-C60-Ih 104934-50-1 105314-21-4 115383-22-7, [5,6]Fullerene-C70-D5h(6) 132814-92-7, α-ω-Dihexyl-quaterthiophene 135113-15-4, Fullerene-C76 135113-16-5, Fullerene-C84 136316-32-0, Fullerene-C78 136846-59-8, Fullerene-C82 136846-62-3, Fullerene-C96 137433-42-2 146341-33-5 151271-43-1, α-ω-Dihexyl-sexithiophene 156669-23-7, α-ω-Dihexylquinquethiophene 268724-96-5 527680-51-9
RL: DEV (Device component use); USES (Uses)
(carbon nanotube thin film transistor)

L55 ANSWER 15 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:395664 HCAPLUS Full-text
DOCUMENT NUMBER: 142:421857
TITLE: Switching device
INVENTOR(S): Kawakami, Haruo; Kuroda, Masami; Kato, Hisato; Sekine, Nobuyuki; Yamashiro, Keisuke
PATENT ASSIGNEE(S): Fuji Electric Holdings Co., Ltd., Japan
SOURCE: PCT Int. Appl., 28 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005041318	A1	20050506	WO 2004-JP15519	200410 20

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

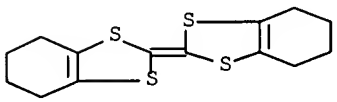
PRIORITY APPLN. INFO.: JP 2003-362999 A 200310 23

AB A switching device has high c.d. in ON state as well as high transition voltage. The device exhibits 2 stable resistances to a voltage applied to the **electrodes**. On a substrate, a 1st **electrode** layer, an organic bistable material layer, and a 2nd **electrode** layer are formed as thin films sequentially in order of mention. The organic bistable material layer contains a main component of an electron-transporting organic bistable material and an additive of an electron-donating compound

IT **35079-58-4 66946-48-3**, BEDT-TTF
RL: DEV (Device component use); USES (Uses)
(electron donor layer; switching **devices** containing organic bistable material layers for organic EL **devices** and high.-d. memory **devices**)

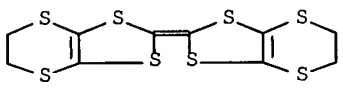
RN 35079-58-4 HCAPLUS

CN 1,3-Benzodithiole, 4,5,6,7-tetrahydro-2-(4,5,6,7-tetrahydro-1,3-benzodithiol-2-ylidene)- (9CI) (CA INDEX NAME)



RN 66946-48-3 HCAPLUS

CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



IC ICM H01L051-00

CC 76-3 (Electric Phenomena)

IT 7429-90-5, Aluminum, uses 7440-57-5, Gold, uses
RL: DEV (Device component use); USES (Uses)
(**electrode**; switching devices containing organic bistable material layers for organic EL devices and high.-d. memory devices)

IT **35079-58-4 66946-48-3**, BEDT-TTF 71938-96-0
RL: DEV (Device component use); USES (Uses)

(electron donor layer; switching **devices** containing organic bistable material layers for organic EL **devices** and high.-d. memory **devices**)

REFERENCE COUNT: 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 16 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2005:209590 HCAPLUS Full-text
DOCUMENT NUMBER: 142:289758
TITLE: Memory devices based on electric field programmable films
INVENTOR(S): Yang, Yang; Ouyang, Jianyong; Szmanda, Charles R.
PATENT ASSIGNEE(S): The Regents of the University of California, USA; Rohm and Haas Company
SOURCE: Eur. Pat. Appl., 25 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

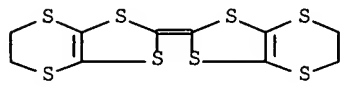
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1513159	A2	20050309	EP 2004-255350	20040903
EP 1513159	A3	20050921		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, PL, SK, HR				
CA 2479317	A1	20050303	CA 2004-2479317	20040826
KR 2005025088	A	20050311	KR 2004-70529	20040903
JP 2005101594	A	20050414	JP 2004-256613	20040903
CN 1651496	A	20050810	CN 2004-10082230	20040903
PRIORITY APPLN. INFO.:			US 2003-500082P P	20030903

AB A composition for the formation of an elec. field programmable film, the composition comprising a matrix precursor composition or a dielec. matrix material, wherein the dielec. matrix material comprises an organic polymer and/or an inorg. oxide; and an electron donor and an electron acceptor of a type and in an amount effective to provide elec. field programming. The films are of utility in data storage devices.

IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
RL: DEV (Device component use); USES (Uses)
(electron donor; memory **devices** based on elec. field programmable films from dielec. matrix composites)

RN 66946-48-3 HCAPLUS

CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



IC ICM G11C013-02
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 38, 66
IT 7429-90-5, Aluminum, processes 50926-11-9, ITO
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PYP (Physical process); PROC (Process); USES (Uses)
(**electrode**; memory devices based on elec. field programmable films from dielec. matrix composites)
IT 86-28-2, N-Ethylcarbazole 87-85-4, Hexamethylbenzene 106-50-3, p-Phenylenediamine, uses 193-44-2, Tetrathiotetracene 31366-25-3, Tetrathiafulvalene 49868-52-2 55259-49-9 56366-76-8 **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
RL: DEV (Device component use); USES (Uses)
(electron donor; memory **devices** based on elec. field programmable films from dielec. matrix composites)

L55 ANSWER 17 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:677671 HCAPLUS Full-text
DOCUMENT NUMBER: 141:197155
TITLE: OLED device with a performance enhancing layer based on chemical reducing materials
INVENTOR(S): Liao, Liang-sheng; Madathil, Joseph K.; Klubek, Kevin P.; Comfort, Dustin L.; Tang, Ching W.
PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: Eur. Pat. Appl., 20 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

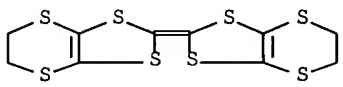
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1447862	A2	20040818	EP 2004-75315	20040202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 6781149	B1	20040824	US 2003-366835	20030214
KR 2004073986	A	20040821	KR 2004-9481	20040213
JP 2004247309	A	20040902	JP 2004-36976	20040202

CN 1610464	A	20050427	CN 2004-10007822	13 200402 14
PRIORITY APPLN. INFO.:			US 2003-366835	A 200302 14

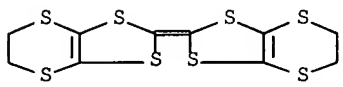
AB Organic light-emitting devices with improved performance are described which comprise an **anode** formed over a substrate; a hole-transporting layer formed over the **anode**; a light-emitting layer formed over the hole-transporting layer for producing light in response to hole-electron recombination; a performance-enhancing layer formed over the light-emitting layer including one or more chemical reducing materials selected to improve the performance of the organic light-emitting device; an electron-transporting layer formed over the performance-enhancing layer; and a **cathode** formed over the electron-transporting layer.

IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
66946-48-3D, Bis(ethylenedithio)tetrathiafulvalene, derivs.
RL: DEV (Device component use); USES (Uses)
(performance-enhancing layer; fabrication of OLED **device** with performance-enhancing layer based on chemical reducing materials)

RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



IC ICM H01L051-20
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

IT 31366-25-3, Tetrathiafulvalene 31366-25-3D, Tetrathiafulvalene, derivs. **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
66946-48-3D, Bis(ethylenedithio)tetrathiafulvalene, derivs.
RL: DEV (Device component use); USES (Uses)
(performance-enhancing layer; fabrication of OLED **device** with performance-enhancing layer based on chemical reducing materials)

L55 ANSWER 18 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:677670 HCAPLUS Full-text
DOCUMENT NUMBER: 141:181714

TITLE: Forming an OLED device with a performance-enhancing layer based on chemical reducing materials
INVENTOR(S): Boroson, Michael L.; Liao, Liang-sheng
PATENT ASSIGNEE(S): Eastman Kodak Company, USA
SOURCE: Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

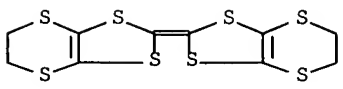
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 1447861	A2	20040818	EP 2004-75314	20040202
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO, MK, CY, AL, TR, BG, CZ, EE, HU, SK				
US 2004161695	A1	20040819	US 2003-366945	20030214
US 6824950	B2	20041130		
KR 2004073995	A	20040821	KR 2004-9616	20040213
JP 2004247310	A	20040902	JP 2004-36993	20040213
CN 1535083	A	20041006	CN 2004-10005063	20040216
PRIORITY APPLN. INFO.:			US 2003-366945 A	20030214

AB Methods for forming an organic light-emitting device with improved performance are discussed which entail forming an **anode** over a substrate; providing a donor element including light-emitting materials and positioning such donor element in a material-transferring relationship with the substrate; illuminating the donor element with radiation to cause the transfer of light-emitting material to deposit the light-emitting material and form a light-emitting layer over the **anode**; forming a performance-enhancing layer over the light-emitting layer including 1 or more chemical reducing materials selected to improve the performance of the organic light-emitting device; forming an electron-transporting layer over the performance-enhancing layer; and forming a **cathode** over the electron-transporting layer. The performance-enhancing layer may include one or more metallic materials selected from alkali metals, alkaline earth metals, and lanthanide metals, or one or more organic chemical reducing materials selected from bis(ethylenedithio)tetrathiafulvalene, tetrathiafulvalene, and their derivs.

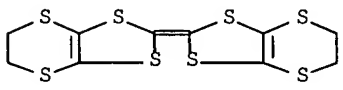
IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
66946-48-3D, Bis(ethylenedithio)tetrathiafulvalene, derivs.
RL: DEV (Device component use); USES (Uses)
(performance-enhancing layer; fabrication of OLED **device** with performance-enhancing layer based on chemical reducing materials)

RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-

b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



IC ICM H01L051-20
ICS H01L051-40
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
IT 7440-39-3, Barium, uses 31366-25-3, Tetrathiafulvalene 31366-25-3D, Tetrathiafulvalene, derivs. **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene **66946-48-3D**, Bis(ethylenedithio)tetrathiafulvalene, derivs.
RL: DEV (Device component use); USES (Uses)
(performance-enhancing layer; fabrication of OLED **device** with performance-enhancing layer based on chemical reducing materials)

L55 ANSWER 19 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2004:632970 HCAPLUS Full-text
DOCUMENT NUMBER: 141:164594
TITLE: Organic electroluminescent device driven at low voltage
INVENTOR(S): Suh, Min-Chul
PATENT ASSIGNEE(S): Samsung SDI Co., Ltd., Japan
SOURCE: U.S. Pat. Appl. Publ., 11 pp.
CODEN: USXXCO
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2004150330	A1	20040805	US 2004-757471	20040115
KR 2004070514	A	20040811	KR 2003-6617	20030203
CN 1610469	A	20050427	CN 2004-10038754	200402

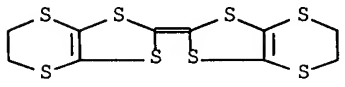
PRIORITY APPLN. INFO.: KR 2003-6617 A 03
200302
03

AB An organic electroluminescent device is described comprising a substrate; a first **electrode** to define a pixel region on the substrate; multiple organic film layers to perform light emission on the first **electrode**; and a second **electrode** formed on the multiple organic film layers, wherein the multiple organic film layers comprise an emitting layer; and at least one of a hole injection layer and a hole transfer layer; wherein the at least one of the hole injection layer and the hole transfer layer comprises an electron acceptor material. The organic electroluminescent device may have an improved lifetime and may be driven at a low voltage.

IT **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene
RL: DEV (Device component use); USES (Uses)
(electron donor; organic electroluminescent **device** having luminance quenching effect driven at low voltage)

RN 66946-48-3 HCAPLUS

CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



IC ICM H05B033-00

INCL 313506000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76

IT 275-51-4, Azulene 632-51-9, Tetraphenylethylene 15570-45-3, 1,2,3,4-Tetraphenyl-1,3-cyclopentadiene **66946-48-3**, Bis(ethylenedithio)tetrathiafulvalene 126213-51-2, Poly(3,4-ethylene-dioxythiophene)
RL: DEV (Device component use); USES (Uses)
(electron donor; organic electroluminescent **device** having luminance quenching effect driven at low voltage)

L55 ANSWER 20 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 2003:173208 HCAPLUS Full-text

DOCUMENT NUMBER: 138:408228

TITLE: High-conductivity organic metals as **electrode** materials

AUTHOR(S): Pospelov, Alexander P.; Ved, Marina V.; Sakhnenko, Nikolay D.; Alexandrov, Yuriy L.; Shtefan, Viktoria V.; Kravchenko, Andrey V.; Kamarchuk, Gennadiy V.

CORPORATE SOURCE: National Technical University Kharkov Polytechnical Institute, Kharkov, Ukraine

SOURCE: Materials Science (2002), 20(3), 65-72
CODEN: MSCJDS; ISSN: 0137-1339

PUBLISHER: Wroclaw University of Technology, Centre of Advanced Materials and Nanotechnology

DOCUMENT TYPE: Journal

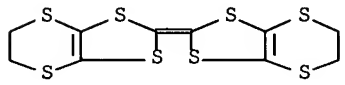
LANGUAGE: English

AB **Electrode** properties of TCNQ (7,7,8,8- tetracyanoquinodimethane) and BEDT-TTF (bis- (ethylenedithio)tetrathiafulvalene) derivs. are considered. The BEDT-TTF-based organic **electrode** materials were produced by electrochem. technique. **Electrodes** with TCNQ salts were obtained by thermal or evaporation method. Polarization and impedance investigations have shown the high **electrode** activity of the BEDT-TTF based materials in irreversible electrochem. processes. TCNQ-based OM sensitivity to pH as well as **electrode** surface resistance vary depending on gaseous phase composition The latter circumstance is quite prospective for applications of organic metals in anal. control **devices**.

IT **66946-48-3**, Bis-(ethylenedithio)tetrathiafulvalene
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(derivs.; high-conductivity organic metals as **electrode** materials)

RN 66946-48-3 HCAPLUS

CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



CC 72-2 (Electrochemistry)
Section cross-reference(s): 29, 79

ST molten salt org metal **electrode** material electrosynthesis

IT Gas sensors
(Pt **electrode** modified with evaporated organic metals for gases)

IT Sensors
(electrochem.; Pt **electrode** modified with evaporated organic metals for gases)

IT **Electrodes**
(high-conductivity organic metals as **electrode** materials)

IT Salts, uses
RL: NUU (Other use, unclassified); USES (Uses)
(molten; high-conductivity organic metals as **electrode** materials)

IT Electric capacitance
(of Pt **electrode** modified with (ET)2Mo6O19 in H2SO4)

IT Cyclic voltammetry
(of Pt **electrodes** bare and modified with (ET)2Mo6O19 in H2SO4)

IT 7664-93-9, Sulfuric acid, uses
RL: NUU (Other use, unclassified); USES (Uses)
(cyclic voltammetry of Pt **electrodes** bare and modified with (ET)2Mo6O19 in H2SO4)

IT **66946-48-3**, Bis-(ethylenedithio)tetrathiafulvalene
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(derivs.; high-conductivity organic metals as **electrode** materials)

IT 12390-22-6
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); RCT (Reactant); PROC (Process); RACT (Reactant or reagent)
(electrosynthesis of high-conductivity organic metals as **electrode** materials in solution containing)

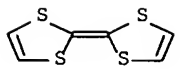
IT 68-12-2, DMF, uses 2537-36-2, Tetramethylammonium perchlorate
RL: NUU (Other use, unclassified); USES (Uses)
(electrosynthesis of high-conductivity organic metals as **electrode** materials in solution containing)

IT 134116-05-5P
RL: CPS (Chemical process); PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(electrosynthesis of high-conductivity organic metals as **electrode** materials in solution containing tetracyanoquinodimethane or bis-(ethylenedithio)tetrathiafulvalene derivs. on)
IT 7440-06-4, Platinum, uses
RL: DEV (Device component use); USES (Uses)
(electrosynthesis of high-conductivity organic metals as **electrode** materials in solution containing tetracyanoquinodimethane or bis-(ethylenedithio)tetrathiafulvalene derivs. on)
IT 1518-16-7
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(high-conductivity organic metals as **electrode** materials)
REFERENCE COUNT: 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 21 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 2002:144492 HCAPLUS Full-text
DOCUMENT NUMBER: 137:127441
TITLE: Deposition of organic **electrodes** based on wet process for organic **devices**
AUTHOR(S): Saito, Kazuhiro; Kobayashi, Shunsuke
CORPORATE SOURCE: National Institute of Advanced Industrial Science and Technology, Tsukuba-shi, Ibaraki, 305-8568, Japan
SOURCE: Applied Physics Letters (2002), 80(8), 1489-1491
CODEN: APPLAB; ISSN: 0003-6951
PUBLISHER: American Institute of Physics
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Patterned organic **electrodes** of charge-transfer complexes were deposited based on a printing method and solution chemical without a vacuum and high temperature The deposited organic **electrodes** showed large work functions, and they were examined as upper **electrodes** of organic photovoltaic cells. It is found that the charge-transfer complexes can be used as wiring material instead of metals without secondary treatment. In comparison with the cells using the conventional metals, a few different properties were observed for those with organic **electrodes**. The differences are assignable to the difference between the organic-organic and the organic-inorg. contacts.
IT **40210-84-2P**, TTF-TCNQ
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(deposition of organic **electrodes** based on wet process for organic **devices**)
RN 40210-84-2 HCAPLUS
CN Propanedinitrile, 2,2'-(2,5-cyclohexadiene-1,4-diylidene)bis-, compd. with 2-(1,3-dithiol-2-ylidene)-1,3-dithiole (1:1) (CA INDEX NAME)

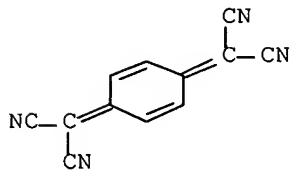
CM 1

CRN 31366-25-3
CMF C6 H4 S4



CM 2

CRN 1518-16-7
CMF C12 H4 N4



CC 52-2 (Electrochemical, Radiational, and Thermal Energy Technology)
ST wet deposition org **electrode** charge transfer complex org **device**
IT Photoelectric **devices**
(deposition of organic **electrodes** based on wet process for organic **devices**)
IT Charge transfer complexes
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(deposition of organic **electrodes** based on wet process for organic **devices**)
IT **Electrodes**
(of organic photovoltaic cells; deposition of organic **electrodes** based on wet process for organic **devices**)
IT **40210-84-2P**, TTF-TCNQ 84632-22-4P
RL: DEV (Device component use); PNU (Preparation, unclassified); PRP (Properties); PREP (Preparation); USES (Uses)
(deposition of organic **electrodes** based on wet process for organic **devices**)
REFERENCE COUNT: 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 22 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1999:147267 HCAPLUS Full-text
DOCUMENT NUMBER: 130:189145
TITLE: Method of manufacturing organic/polymer electroluminescent device
INVENTOR(S): Zyung, Taehyoung; Jung, Sang-don; Choi, Kang-hoon
PATENT ASSIGNEE(S): Electronics and Telecommunications Research Institute, S. Korea
SOURCE: U.S., 6 pp.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1

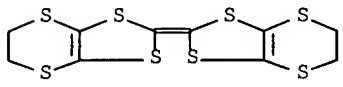
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5876786	A	19990302	US 1997-919929	19970828
PRIORITY APPLN. INFO.:			KR 1996-35936 A	19960828

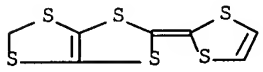
AB Methods of manufacturing electroluminescent devices are described which entail preparing a transparent substrate; depositing a transparent layer on the substrate; forming a plurality of transparent **electrodes** on selected portions of the substrate by patterning the layer; depositing a first film comprising a first charge transfer material on the resulting structure; depositing an emissive layer on the first film; depositing a second film comprising a second charge transfer material on the emissive layer; depositing a metal layer on the second film; and forming a plurality of metal **electrodes** on selected portions of the second film by patterning the metal layer. Forming the film consisting of a charge transfer complex or charge transfer salt between the organic/polymer electroluminescent layer and **electrodes** for injecting electrons and holes increases the electroluminescent quantum efficiency.

IT **66946-48-3**, Bis(ethylenedithio)-tetrathiafulvalene
118148-29-1 120120-58-3
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(organic/polymer electroluminescent **device** fabrication)

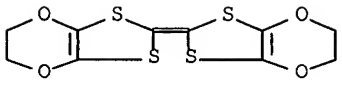
RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



RN 118148-29-1 HCAPLUS
CN [1,3]Dithiolo[4,5-d]-1,3-dithiole, 1,3-dithiol-2-ylidene- (9CI) (CA INDEX NAME)

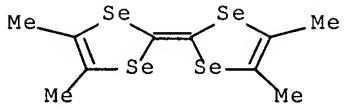


RN 120120-58-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dioxin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dioxin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



IC ICM B05D005-06
INCL 427064000
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 76
IT 50926-11-9, Indium tin oxide
RL: DEV (Device component use); USES (Uses)
(**electrode**; organic/polymer electroluminescent device fabrication)
IT 193-44-2, Tetrathiatetracene 198-55-0, Perylene. 1518-16-7, 7,7,8,8,-Tetracyano-p-quinodimethane 31366-25-3, Tetrathiafulvalene 54627-88-2, 1-Methyl-1,4-dithianium 55259-49-9, Tetramethyltetraselenafulvalene 62025-91-6D, metal compds. with tetra-n-butylammonium **66946-48-3**, Bis(ethylenedithio)-tetrathiafulvalene 98507-06-3 101683-17-4 **118148-29-1 120120-58-3**
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
(organic/polymer electroluminescent **device** fabrication)
REFERENCE COUNT: 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 23 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:415748 HCAPLUS Full-text
DOCUMENT NUMBER: 129:167225
TITLE: Effect of **electrode**-materials for electrocrystallization of organic charge-transfer complex (TMTSF)2ClO4
AUTHOR(S): Anzai, Hiroyuki; Maki, Suguru; Takasaki, Satoshi; Tanaka, Satoru; Nakatsuji, Shin' ichi; Yamada, Jun-ichi; Nozaki, Ken; Negishi, Akira; Harusawa, Miho
CORPORATE SOURCE: Ako-gun, Kanaji Kamigori-cho, 1479-1, Faculty of Science, Department of Material Science, Himeji Institute of Technology, Hyogo, 678-1297, Japan
SOURCE: Journal of Crystal Growth (1998), 191(1/2), 148-152
CODEN: JCRGAE; ISSN: 0022-0248
PUBLISHER: Elsevier Science B.V.
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Several materials (Pt, Au, Pd, Ag, Cu, Ni, glassy carbon, PbO2, TiO2 and SnO2-Sb2O3) as pos. **electrode** and Pt metal as neg. **electrode**, resp., were studied for crystal growth by electrocrystn., to obtain good-quality crystals of (TMTSF)2ClO4 and to reduce the cost of growing crystals.
IT **55259-49-9**, Tetramethyltetraselenafulvalene
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(electrochem. oxidation of tetramethyltetraselenafulvalene on various **electrodes** in solution containing tetrabutylammonium perchlorate in electrocrystn.)
RN 55259-49-9 HCAPLUS
CN 1,3-Diselenole, 2-(4,5-dimethyl-1,3-diselenol-2-ylidene)-4,5-dimethyl- (CA INDEX NAME)



CC 72-2 (Electrochemistry)
Section cross-reference(s): 75
ST **electrode** electrocrystn org charge transfer complex; TMTSF perchlorate electrocrystn **electrode** material effect; tetramethyltetraselenafulvalenium perchlorate electrocrystn **electrode** material; metal **electrode** TMTSF perchlorate electrocrystn; semiconductor **electrode** TMTSF perchlorate electrocrystn
IT Metals, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(effect of **electrode**-materials for electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)
IT Charge transfer complexes
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(effect of **electrode**-materials for electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)
IT Crystal growth
(electrochem.; **electrode**-materials for (TMTSF)2ClO4)
IT Crystallization
(electrocrystallization; effect of **electrode**-materials for electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)
IT Semiconductor **devices**
Semiconductor **devices**
(**electrodes**; for electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)
IT **Anodes**
(for electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)
IT Oxidation, electrochemical
(of tetramethyltetraselenafulvalene on various **electrodes** in solution containing tetrabutylammonium perchlorate in electrocrystn.)
IT **Electrodes**
Electrodes
(semiconductive; for electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)
IT 7440-22-4, Silver, uses 7440-50-8, Copper, uses
RL: DEV (Device component use); PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process); USES (Uses)
(effect of **electrode**-materials for electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)
IT 1309-60-0, Lead oxide (PbO2) 7440-05-3, Palladium, uses 7440-06-4, Platinum, uses 7440-44-0, Carbon, uses 7440-57-5, Gold, uses 13463-67-7, Titanium oxide (TiO2), uses 211228-23-8, Antimony tin oxide (Sb0.1Sn0.95O2.05)
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(effect of **electrode**-materials for electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)
IT 77273-54-2, Bis(tetramethyltetraselenafulvalenium) perchlorate
RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
(effect of **electrode**-materials for electrocrystn. of

organic charge-transfer complex (TMTSF)2ClO4)

IT 1923-70-2, Tetrabutylammonium perchlorate
RL: NUU (Other use, unclassified); PRP (Properties); RCT (Reactant); RACT (Reactant or reagent); USES (Uses)
(electrochem. oxidation of tetramethyltetraselenafulvalene on various **electrodes** in solution containing tetrabutylammonium perchlorate in electrocrystn.)

IT **55259-49-9**, Tetramethyltetraselenafulvalene
RL: PRP (Properties); RCT (Reactant); RACT (Reactant or reagent)
(electrochem. oxidation of tetramethyltetraselenafulvalene on various **electrodes** in solution containing tetrabutylammonium perchlorate in electrocrystn.)

IT 7440-02-0, Nickel, uses
RL: DEV (Device component use); PRP (Properties); USES (Uses)
(**electrode**-materials for attempted electrocrystn. of organic charge-transfer complex (TMTSF)2ClO4)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L55 ANSWER 24 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1995:604461 HCAPLUS Full-text
DOCUMENT NUMBER: 123:22404
TITLE: Active **devices** comprising ferroelectric substances for display **devices**
INVENTOR(S): Shimada, Shinji
PATENT ASSIGNEE(S): Sharp Kk, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 5 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 07084281	A	19950331	JP 1993-229135	199309 14
PRIORITY APPLN. INFO.:			JP 1993-229135	199309 14

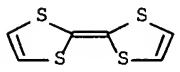
AB The active **devices** comprise an active layer of ferroelec. substances supported between a pair of **electrodes** and the ferroelec. substances contain substances which increase elec. conductivity of the ferroelec. substances. The ferroelec. substances may contain ≥1 selected from poly(vinylidene fluoride), poly(vinyl fluoride), trifluoroethylne, tetrafluoroethylene, and nylon as the monomer unit. The nonlinear active **devices** are used for switching **devices**, e.g. liquid-crystal display **devices**. The **devices** are prevented from separation of the **electrodes** and the active layer. The active layer composed of a film of poly(vinylidene fluoride)-trifluoroethylene copolymer as the 1st ferroelec. layer and a film as the 2nd ferroelec. layer, which comprises the same copolymer as the 1st layer and contains TCNQ and TTF, is exemplified.

IT **31366-25-3**, TTF
RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)
(active **devices** comprising active layer of ferroelec.

substances containing additives to increase the elec. conductivity for preventing separation between **electrodes** and the active layer)

RN 31366-25-3 HCAPLUS

CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



IC ICM G02F001-135

CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

ST active **device** ferroelec substance additive; display active **device** ferroelec substance

IT Ferroelectric substances

Optical imaging **devices**

(active **devices** comprising active layer of ferroelec. substances containing additives to increase the elec. conductivity for preventing separation between **electrodes** and the active layer)

IT Fluoropolymers

RL: DEV (Device component use); USES (Uses)

(active **devices** comprising active layer of ferroelec. substances containing additives to increase the elec. conductivity for preventing separation between **electrodes** and the active layer)

IT Optical instruments

(switches, active **devices** comprising active layer of ferroelec. substances containing additives to increase the elec. conductivity for preventing separation between **electrodes** and the active layer)

IT 28960-88-5, Vinylidene fluoride-trifluoroethylene copolymer

RL: DEV (Device component use); USES (Uses)

(active **devices** comprising active layer of ferroelec. substances containing additives to increase the elec. conductivity for preventing separation between **electrodes** and the active layer)

IT 1518-16-7, TCNQ **31366-25-3**, TTF

RL: DEV (Device component use); MOA (Modifier or additive use); USES (Uses)

(active **devices** comprising active layer of ferroelec. substances containing additives to increase the elec. conductivity for preventing separation between **electrodes** and the active layer)

L55 ANSWER 25 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN

ACCESSION NUMBER: 1993:263541 HCAPLUS Full-text

DOCUMENT NUMBER: 118:263541

TITLE: Electrochromic optical switching **device**

INVENTOR(S): Lampert, Carl M.; Visco, Steven J.

PATENT ASSIGNEE(S): University of California, USA

SOURCE: U.S., 9 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 3

PATENT INFORMATION:

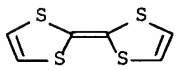
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5142406	A	19920825	US 1990-606063	19901030
US 5442478	A	19950815	US 1992-872830	19920423
PRIORITY APPLN. INFO.:			US 1990-606063 A2	19901030

AB Electrochromic cells are described which comprise an electrochromic **electrode** coupled via an ion-transporting elec. insulating separator with a counter **electrode** formed from a reversibly polymerizable compound described by the general formula (RSy)n in the charged state (y = 1-6; n = 2-1,000,000; and R = ≥1 of the same or different C1-20 aliphatic or aromatic organic moieties which may include ≥1 O, S, or N heteroatoms when R comprises ≥1 aromatic rings or ≥1 O, S, N, or F atoms associated with the chain when R comprises an aliphatic chain, aliphatic chains may be linear, branched, saturated or unsatd., and either aliphatic chains or aromatic rings may have substituents). Electrochromic **devices** employing the cells are also described.

IT **31366-25-3**, Tetrathiafulvalene
RL: USES (Uses)
(electrochromic cells with electrochromic **electrodes** from, and organosulfur compound counter **electrodes**)

RN 31366-25-3 HCAPLUS

CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



IC ICM G02F001-153

INCL 359269000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29

ST organosulfur compd **electrode** electrochromic cell; reversible polymn **electrode** electrochromic cell

IT Electric contacts
(for electrochromic **devices**, organosulfur compound-containing)

IT Optical imaging **devices**
(electrochromic, with organosulfur compds. counter **electrodes**)

IT Ladder polymers
RL: USES (Uses)
(phenothiazines, electrochromic cells with electrochromic **electrodes** from, and organosulfur compound counter **electrodes**)

IT 1072-71-5, 2,5-Dimercapto-1,3,4-thiadiazole
RL: USES (Uses)
(electrochromic cells with counter **electrodes** containing)

IT 61-73-4, Methylene blue 84-47-9, 2-tert-Butylanthraquinone

84-65-1, Anthraquinone 95-53-4, properties 110-86-1, Pyridine, properties 119-93-7, 4,4'-Diamino-3,3'-dimethylbiphenyl 12030-48-7, Iridium monoxide 12030-49-8, Iridium dioxide 12036-35-0, Rhodium oxide (Rh2O3) 12054-48-7, Nickel hydroxide (Ni(OH)2) 12137-18-7, Rhodium monoxide 13463-67-7, Titanium dioxide, uses 13601-18-8D, solid solution with ferric ferrocyanide 14038-43-8, Ferric ferrocyanide (Fe4(Fe(CN)6)-3) 14038-43-8D, solid solution with lithium ferrocyanide 15546-75-5, 5,10-Dihydro-5,10-dimethylphenazine 18933-05-6, Manganese hydroxide (Mn(OH)2) 25233-30-1, Polyaniline 25233-34-5, Polythiophene **31366-25-3**, Tetrathiafulvalene 36118-45-3, Pyrazoline 36490-78-5 46040-54-4 54968-01-3, Iridium hydroxide (Ir(OH)3) 56321-86-9, Ruthenium hydroxide 59458-40-1, Gold tungsten oxide 79079-35-9 101178-33-0 116066-80-9, Osmium hydroxide 142448-10-0, Rhodium hydroxide 147657-45-2, Platinum tungsten oxide
RL: USES (Uses)
(electrochromic cells with electrochromic **electrodes** from, and organosulfur compound counter **electrodes**)

IT 1304-76-3, Bismuth oxide (Bi2O3), properties 1307-96-6, Cobalt monoxide, properties 1308-38-9, Chromium oxide (Cr2O3), properties 1309-60-0, Lead dioxide 1313-27-5, Molybdenum trioxide, properties 1313-96-8, Niobium oxide (Nb2O5) 1313-99-1, Nickel monoxide, properties 1314-35-8, Tungsten trioxide, properties 1314-62-1, Vanadium oxide (V2O5), properties 1317-36-8, Lead monoxide, properties 1317-38-0, Copper oxide (CuO), properties 1343-93-7 1344-43-0, Manganese monoxide, properties 1344-54-3, Titanium oxide (Ti2O3) 6159-05-3
RL: PRP (Properties)
(electrochromic cells with electrochromic **electrodes** from, and organosulfur compound counter **electrodes**)

IT 7440-74-6, Indium, uses
RL: USES (Uses)
(electrochromic cells with **electrodes** based on zinc monoxide doped with, and organosulfur compds. counter **electrodes**)

IT 18282-10-5, Tin dioxide
RL: USES (Uses)
(electrochromic cells with **electrodes** based on, and organosulfur counter **electrodes**)

IT 7440-36-0, Antimony, uses 7782-41-4, Fluorine, uses
RL: USES (Uses)
(electrochromic cells with **electrodes** from tin oxide doped with, and organosulfur compound counter **electrodes**)

IT 1312-43-2, Indium oxide (In2O3) 7429-90-5, Aluminum, uses 7440-02-0, Nickel, uses 7440-16-6, Rhodium, uses 7440-22-4, Silver, uses 7440-32-6, Titanium, uses 7440-47-3, Chromium, uses 7440-50-8, Copper, uses 7440-57-5, Gold, uses 12014-13-0, Cadmium tin oxide (CdSnO3) 12185-56-7, Cadmium stannate (Cd2SnO4) 12597-68-1, Stainless steel, properties 12597-71-6, Brass, uses 22205-45-4, Copper sulfide (Cu2S) 25583-20-4, Titanium mononitride 37271-26-4, Titanium oxynitride
RL: USES (Uses)
(electrochromic cells with **electrodes** from, and organosulfur compound counter **electrode**)

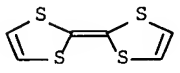
IT 1306-19-0, Cadmium monoxide, properties 1314-13-2, Zinc monoxide, properties
RL: PRP (Properties)
(electrochromic cells with **electrodes** from, and organosulfur compound counter **electrode**)

IT 33454-82-9, Lithium triflate
RL: USES (Uses)
(electrochromic **devices** with layers containing, with organosulfur compound counter **electrodes**)

L55 ANSWER 26 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:568254 HCAPLUS Full-text
DOCUMENT NUMBER: 113:168254
TITLE: Comparative study of first-, second- and third-generation amperometric glucose enzyme **electrodes** in continuous-flow analysis of undiluted whole blood
AUTHOR(S): Gunasingham, Hari; Tan, Chin Huat; Aw, Tar Choon
CORPORATE SOURCE: Dep. Chem., Natl. Univ. Singapore, Kent Ridge, 0511, Singapore
SOURCE: Analytica Chimica Acta (1990), 234(2), 321-30
CODEN: ACACAM; ISSN: 0003-2670
DOCUMENT TYPE: Journal
LANGUAGE: English

AB First-, second-, and third-generation amperometric glucose enzyme **electrodes** were compared under flow-injection and steady-state conditions for the monitoring of undiluted whole blood. First-generation **electrodes**, based on the detection of hydrogen peroxide at a platinum **electrode**, are generally unsuitable because of the eventual poisoning of the **electrode** and because of their susceptibility to oxygen variation. Second-generation **electrodes** in which a mediator is used for the reoxidn. of glucose oxidase are more suitable for the anal. of whole blood under both steady-state and flow-injection conditions. However, the choice of mediator is important. The best results with regard to linear range and stability were obtained with tetrathiafulvalene, whereas dimethylferrocene required considerable pretreatment before use. A third-generation **electrode** based on tetrathiafulvalene- tetracyanoquinodimethane where direct oxidation of glucose oxidase occurs also proved useful but showed lower stability and a smaller dynamic range compared with the second-generation **devices**. Flow-injection and steady-state studies were carried out using wall-jet cell geometry.

IT **31366-25-3**
RL: ANST (Analytical study)
(in glucose-selective enzyme **electrode**)
RN 31366-25-3 HCAPLUS
CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



CC 9-1 (Biochemical Methods)
Section cross-reference(s): 72
ST amperometric glucose enzyme **electrode**; blood glucose detn
IT Blood analysis
(glucose determination in, amperometric enzyme **electrodes** comparison for)
IT **Electrodes**
(bio-, enzyme, glucose-selective, amperometric, for continuous-flow anal. of blood)
IT 50-99-7
RL: ANST (Analytical study)
(blood analysis, glucose determination in, amperometric enzyme **electrodes** comparison for)
IT 50-99-7, Glucose, biological studies

RL: ANT (Analyte); ANST (Analytical study)
(detn of, amperometric enzyme **electrodes** comparison for)

IT 1291-47-0, Dimethylferrocene 1518-16-7 **31366-25-3**
RL: ANST (Analytical study)
(in glucose-selective enzyme **electrode**)

L55 ANSWER 27 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:524924 HCAPLUS Full-text
DOCUMENT NUMBER: 113:124924
TITLE: Memory devices utilizing fulvalene derivative thin films
INVENTOR(S): Sukegawa, Takeshi; Maruno, Toru; Hayashida, Shoichi
PATENT ASSIGNEE(S): Nippon Telegraph and Telephone Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 10 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

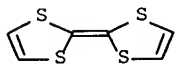
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 02060166	A	19900228	JP 1988-210542	198808 26

PRIORITY APPLN. INFO.: JP 1988-210542 198808 26

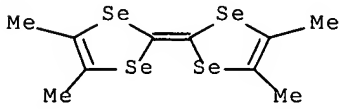
AB A single memory unit of the title memory device comprises a liquid or solid electrolyte, a working **electrode**, a counter **electrode**, and optionally a reference **electrode**, the working **electrode** bearing a vapor-deposited thin film of a chalcogen-containing fulvalene derivative A single unit may also comprise a liquid or solid electrolyte and 2 sets of **electrodes** where 1 working **electrode** bears a thin film of a chalcogen-containing vapor-deposited fulvalene derivative and the other working **electrode** bears a thin film of an organic compound or organometallic complex having a reversible oxidation-reduction potential between the oxidation and reduction potentials of the deposited fulvalene film. The deposited films of the organic compound or organometallic complex and the fulvalene derivative are in contact with each other. The fulvalene films have oxidation and reduction potentials which differ in (absolute) value, extremely rapid oxidation and reduction reaction rates, are elec. conductive in the oxidized state, and allow switching between the potentials for the oxidation and reduction reactions. Highly integrated fast response devices can be obtained.

IT **31366-25-3**, Tetrathiafulvalene **55259-49-9**, Tetramethyltetraselenafulvalene **66946-48-3**, Bisethylenedithiotetrathiafulvalene
RL: **USES (Uses)**
(**electrochem**. memory **devices** using)

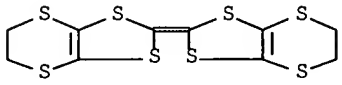
RN 31366-25-3 HCAPLUS
CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



RN 55259-49-9 HCAPLUS
CN 1,3-Diselenole, 2-(4,5-dimethyl-1,3-diselenol-2-ylidene)-4,5-dimethyl- (CA INDEX NAME)



RN 66946-48-3 HCAPLUS
CN 1,3-Dithiolo[4,5-b][1,4]dithiin, 2-(5,6-dihydro-1,3-dithiolo[4,5-b][1,4]dithiin-2-ylidene)-5,6-dihydro- (CA INDEX NAME)



IC ICM H01L029-28
ICS H01L027-10
CC 76-14 (Electric Phenomena)
Section cross-reference(s): 72, 74
ST memory **device** fulvalene film **electrochem**
IT Memory **devices**
(**electrochem.**, fulvalene derivs. for)
IT 102-54-5, Ferrocene **31366-25-3**, Tetrathiafulvalene
55259-49-9, Tetramethyltetraselenafulvalene
66946-48-3, Bisethylenedithiotetrathiafulvalene
RL: **USES (Uses)**
(**electrochem.** memory **devices** using)

L55 ANSWER 28 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1990:130820 HCAPLUS Full-text
DOCUMENT NUMBER: 112:130820
TITLE: Switching device
INVENTOR(S): Eguchi, Takeshi; Kawada, Harunori; Sakai, Kunihiro; Matsuda, Hiroshi
PATENT ASSIGNEE(S): Canon K. K., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 13 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 01245577	A	19890929	JP 1988-71762	19880328

PRIORITY APPLN. INFO.: JP 1988-71762 19880328

AB A stable switching device with an improved reproducibility comprises an organic insulator layer having a periodic layer structure between a pair of **electrodes** ≥1 of which comprises an organic conductor.

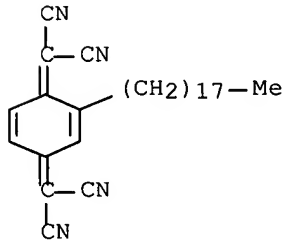
IT **101853-37-6**
RL: USES (Uses)
(elec. switches containing)

RN 101853-37-6 HCAPLUS

CN Propanedinitrile, 2,2'-(2-octadecyl-2,5-cyclohexadiene-1,4-diylidene)bis-, compd. with 2-(4,5-dimethyl-1,3-dithiol-2-ylidene)-4,5-dimethyl-1,3-dithiole (1:1) (9CI) (CA INDEX NAME)

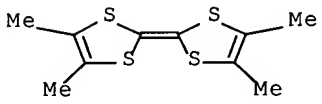
CM 1

CRN 101853-36-5
CMF C30 H40 N4



CM 2

CRN 50708-37-7
CMF C10 H12 S4



IC ICM H01L049-02
ICS H01L029-28

ICA C08G061-00; C08G073-00

CC 76-14 (Electric Phenomena)

ST switch org insulator **electrode**

IT Electric switches and switching
(organic **electrode** and insulators for)

IT 110-00-9D, derivs., polymers 9033-83-4, Poly(phenylene) 12369-74-3, Lutetium diphthalocyanine 25014-15-7, Poly(2-vinylpyridine) 25067-58-7, **Polyacetylene** 25067-59-8 25067-97-4 25135-12-0, Poly(1-vinyl naphthalene) 25135-16-4, Polynaphthalene 25190-62-9, Poly p-phenylene 25212-74-2, Poly p-phenylene sulfide 25233-30-1, Polyaniline 25667-40-7, Poly p-phenylene oxide 26009-24-5, Poly p-phenylene vinylene 26499-97-8, Poly m-phenylene 27880-39-3,

Poly(1,4-phenylenemethylene) 27987-87-7, Polydiacetylene 28406-56-6, Poly(2-vinylnaphthalene) 30604-81-0, Polypyrrole 34801-99-5, Poly(vinyl ferrocene) 51325-05-4, Polythienylene 52410-66-9, Poly(seleno-1,4-phenylene) 89231-09-4, Polyselenophene 91201-85-3 **101853-37-6** 101909-00-6 112261-44-6
RL: USES (Uses)
(elec. switches containing)

L55 ANSWER 29 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1988:104856 HCAPLUS Full-text
DOCUMENT NUMBER: 108:104856
TITLE: Organic-thin-film electric elements
INVENTOR(S): Mizushima, Koichi; Nakayama, Toshio; Miura, Akira; Motoma, Nobuhiro
PATENT ASSIGNEE(S): Toshiba Corp., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 9 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62222669	A	19870930	JP 1986-66277	198603 25

PRIORITY APPLN. INFO.: JP 1986-66277 198603 25

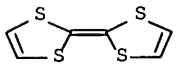
AB The title element, used for an electronic **device**, consists of a laminate of alternately placed 1st (donor)- and 2nd (acceptor)-type organic thin films, where part of the **electrode** to apply elec. potential to the laminate is formed of an organic elec. conductor. The films and the elec. conductor may be produced by Langmuir-Blodgett method. The element has improved charge-carrying efficiency when elec. potential is applied.

IT **51159-15-0**
RL: USES (Uses)
(organic elec.-conductor **electrodes** from, thin-film elec. elements containing)

RN 51159-15-0 HCAPLUS
CN Propanedinitrile, 2,2'-(2,5-cyclohexadiene-1,4-diylidene)bis-, compd. with 2-(1,3-dithiol-2-ylidene)-1,3-dithiole (9CI) (CA INDEX NAME)

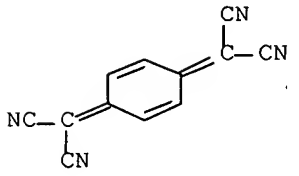
CM 1

CRN 31366-25-3
CMF C6 H4 S4



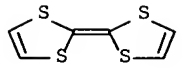
CM 2

CRN 1518-16-7
CMF C12 H4 N4



IC ICM H01L029-28
ICS H01L029-46
CC 76-2 (Electric Phenomena)
IT **Electrodes**
(organic elec.-conductor, thin-film elec. elements containing)
IT Electric conductors
(organic, **electrodes** from, thin-film elec. elements containing)
IT **51159-15-0**
RL: USES (Uses)
(organic elec.-conductor **electrodes** from, thin-film elec. elements containing)

L55 ANSWER 30 OF 30 HCAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1977:574763 HCAPLUS Full-text
DOCUMENT NUMBER: 87:174763
TITLE: Electrochemical properties of dopants and the d.c. dynamic scattering of a nematic liquid crystal
AUTHOR(S): Lim, H. S.; Margerum, J. D.; Graube, A.
CORPORATE SOURCE: Hughes Res. Lab., Malibu, CA, USA
SOURCE: Journal of the Electrochemical Society (1977), 124(9), 1389-94
CODEN: JESOAN; ISSN: 0013-4651
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Flow of liquid from 1 **electrode** to the other was observed during dynamic scattering of a phenyl benzoate nematic liquid crystal. The direction of the flow depended upon the electrochem. properties of dopants. The flow was from **cathode** to **anode** when the dopant was an electron acceptor, and vice versa when the dopant was a donor. A redox dopant gave distinctively different d.c. dynamic scattering patterns from a salt dopant, and did not give the Williams domain pattern which was observed with a salt dopant. Charge conduction mechanisms through the liquid crystal are discussed in terms of the **electrode** reactions of the liquid crystal components and the dopants.
IT **31366-25-3**
RL: PRP (Properties)
(liquid crystal flow to **electrode** during dynamic scattering in relation to)
RN 31366-25-3 HCAPLUS
CN 1,3-Dithiole, 2-(1,3-dithiol-2-ylidene)- (CA INDEX NAME)



CC 72-11 (Electrochemistry)
Section cross-reference(s): 74, 75
ST liq crystal **electrode** reaction; dopant electrochem property; dynamic scattering liq crystal; flow liq crystal **electrode**; phenyl benzoate liq crystal; optical display **device**
IT Optical display **devices**
(**electrochem**. properties of dopants in relation to)
IT **Electrode** reaction
(of liquid crystals and dopants, in nonaq. solvents)
IT 7439-97-6, uses and miscellaneous 7440-06-4, uses and miscellaneous
RL: USES (Uses)
(**cathode**, phenylbenzoate liquid crystal reduction on, in nonaq. solvent)
IT 38454-23-8 38454-24-9 52709-88-3 60127-45-9
RL: PRP (Properties)
(dynamic scattering of, dopant effect on flow to **electrode** in relation to)
IT 1172-07-2 1274-08-4 1518-16-7 1923-70-2 **31366-25-3** 35895-70-6
RL: PRP (Properties)
(liquid crystal flow to **electrode** during dynamic scattering in relation to)

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